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SRI Project 2970

Technical Note

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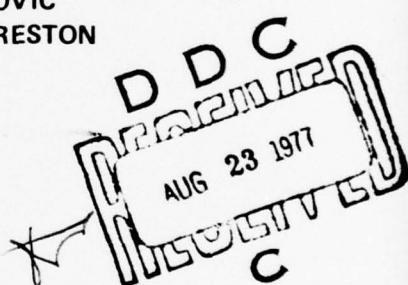
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THE SRI-WEFA SOVIET ECONOMETRIC MODEL: PHASE THREE DOCUMENTATION – VOLUME II

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SRI Project 2970

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⑭ SSC-TN-2970-6

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Richard B. Foster, Director
Strategic Studies Center

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ABSTRACT

This volume contains the appendices for the Technical Note presenting the results of Phase Three work on the SRI-WEFA Econometric Model of the Soviet Union. Appendix A is documentation for SOVMOD II version of the SRI-WEFA Model, while Appendix B documents the SOVMOD III version.

DISCLAIMER

The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the Defense Advanced Research Projects Agency of the U.S. Government.

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Appendix A

DOCUMENTATION FOR THE SRI-WEFA ECONOMETRIC MODEL OF THE SOVIET UNION
- SOVMOD II -

APPENDIX A

DOCUMENTATION FOR THE

SRI-WEFA

ECONOMETRIC MODEL OF THE SOVIET UNION:

SOVMOD II

by

DONALD W. GREEN

I. Structure and Scale

In its fully endogenous mode, the model consists of 156 stochastic relationships (behavioral and technical) and 97 identities arranged in the sectors given below. Each sector is identified by a single letter which is then used as the initial letter in the names of all variables determined in that sector.

SECTOR IDENTIFIER	SECTOR NAME	EQUATIONS	
		BEHAVIORAL	IDENTITY
N	Population and Employment	26	2
I	Investment	19	5
K	Capital Formation	18	24
A	Other Agricultural Variables	2	
X	Production	19	
U	Material Inputs		33
W	Wages	6	
Z	Incomes	5	4
P	Prices	11	2
C	Consumption	4	1
T	Budget Renenues	5	2
B	Budget Outlays	6	1
E	Exports	14	7
M	Imports	15	6
F	Hard Currency	4	5
G	Aggregate Identities & Balances	2	5
TOTAL		156	97

II. Simulation of SOVMOD II

The model is encoded into a simulation program using the WEFA general model solution system SOLVEM.* This program has standard facilities to convert the status of any variable (e.g., from endogenous) and to apply additive adjustments to any variable. In addition it has facility to change the status of BLOCKS of the model which has been utilized in the following way.

BLOCK NO.	DESCRIPTION	CONSISTING OF SECTORS
1	Population and Employment	N
2	Capital Formation	K
3	Production	A,X
4	Wages, Incomes and Prices	W,Z,P
5	Investment	I
6	Consumption	C
7	State Budget	T,B
8	Foreign Sector	E,M,F
9	Aggregates	G
10	Material Inputs	U

Most of the simultaneity in the model occurs in Blocks 1-5 and 10; the other four Blocks are virtually post-recursive except for certain import equations (grain and machinery) in Block 8. SOLVEM has a BLOCK feature which allows the user to change the status of an entire Block of equations from endogenous to exogenous.

SOLVEM also has the facility to allow the user to select different alternatives of an equation or set of equations, thus establishing different variants of the model. The alternative switches en-

* The coding of SOVMOD II was done by Raymond Chi  n. We are indebted to George Schink and Bill Brown, the developers of SOLVEM, for guidance in using it for this model.

coded in SOVMOD II are given below where ZERO is the initial default option:

ALTERNATE SWITCH NO.	SETTING	ALTERNATIVE	EQUATION NUMBERS
1	ZERO	Non-agricultural investment by adding components	I.1a-6a
	ONE	Non-agricultural investment by direct function (components by exogenous ratios).	I.1b-6b
2	ZERO	Industrial branch investment by direct function	I.10a-I.20a
	ONE	Industrial branch investment determined by aggregate level and exogenous share	I.10b-I.20a
3	ZERO	Gross profits, no anticipation variable	Z.7a
	ONE	Gross profits, with anticipation variable ZFPG&9	Z.7b
	TWO	Gross profits determined by Residual Income	Z.7c
4	ZERO	Total consumption by adding components	C.1b
	ONE	Total consumption by direct function	C.1a
	TWO	Total consumption by residual function	C.1c
5	ZERO	Consumption Components by direct functions	C.2a-C.5a
	ONE	Consumption components by share functions.	C.2b-C.5b
6	ZERO	Industrial output, disaggregated capital stock, dummy variable 1964-1966	X.1a
	ONE	Industrial output, disaggregated capital stock, no dummy	X.1b

ALTERNATE SWITCH NO.	SETTING	ALTERNATIVE	EQUATION
6 (con't)	TWO	Industrial output, aggregated capital stock, dummy variable 1944-66.	X.1c
	THREE	Industrial output, aggregated capital stock, no dummy	X.1d
7	ZERO	Grain output, link equation to gross agricultural output.	X.18a
	ONE	Grain output, direct production function.	X.18b
8	ZERO	Direct production functions for industrial branches using only primary inputs.	X.7a-X.18a
	ONE	Production functions using exogenous material input series from I-O data.	X.7b-X.18b
	TWO	Same production functions as ONE with material inputs determined endogenously with balanced B matrix.	X.7b-X.18b U.1-U.2 UF-2
	THREE	Same production functions as ONE but material inputs determined endogenously using A Matrix and excess demands distributed using B Matrix.	X.7b-X.18b U.1-U.2 UF-3
	FOUR	Same as THREE, but excess demands distributed so as to minimize weighted coefficient change.	X.7b-X.18b U.1-U.2 UF-4

Except in the form in which total consumption is residually determined (Alt. 4=TWO), GNP is determined both from the side of production (eq. G.3) and from the side of use (by adding components). The difference is a simulation residual defined in equation G.7.

III. Variables

Variables in the model are contained in the attached alphabetical list; there are 252 endogenous and 140 exogenous variables. The following naming conventions have been employed.*

SYMBOL	CONVENTION
<u>Initial Symbol</u>	
Sector symbols	Sector of model (see above list) in which endogenous variable is determined.
Q	Dummy or time trend variables (figures following generally denote year(s), e.g., Q65 is a dummy variable for 1965).
<u>Final Symbol</u>	
9	Exogenous variable other than Q-type.
<u>Embedded or Trailing Symbols</u>	
Industries	I Industry C Construction T Transport and Communications S Domestic Trade G Government and Services A Agriculture
Industrial Branches	EP Electro Energy CP Coal Products PP Petroleum Products FM Ferrous Metallurgy NF Nonferrous Metallurgy CH Chemicals and Petrochemicals FP Forest Products PA Paper and Pulp

* The reader is urged to study these conventions prior to consulting the equations of the model as an understanding of them will greatly facilitate that process.

SYMBOL	CONVENTION
<u>Industrial Branches (cont)</u>	
CM	Construction Materials
MB	Machine-Building and Metal-Working
SG	Soft Goods
PF	Processed Foods
NC	Not-Classified Elsewhere (Residual)
<u>Other</u>	
&	Current ruble value (always used)
\$	Current dollar value (always used)
70	1970 Ruble basis (not always used)

NOTE: A variable is endogenous if and only if its name ends in 9 or begins with Q.

Data file management programs developed at WEFA were used to construct, maintain and utilize a databank for the model.* The structure of the list of variables is largely self-explanatory. Variable # refers to the number of the variable in the model (simulation program) which generally differs from the number on the data-bank. The set of model variables is a subset of the complete data-bank.

* We are indebted to Virginia Long for assistance in setting up these programs for our purposes.

SEPT 2, 1975

DOCUMENTATION

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SEPTEMBER 1975

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DOCUMENTATION

SERIES LABEL	DESCRIPTION	OTR	MON	ANN	UNITS	SOURCE	VAR# EQU#
20 KIF9	BRANCH INVESTMENT SHARE: IND-FIAPUS (RESIDUAL SHARE)					NKH-TRAN	234C
35 KIF9	BRANCH INVESTMENT SHARE: PROCESSCO FOCNS					NKH-TRAN	24CC
26 KIF9	BRANCH INVESTMENT SHARE: PETROLEUM PRODUCTS					NKH-TRAN	232C
32 KIF9	BRANCH INVESTMENT SHARE: SOFT COCON					NKH-TRAN	239C
371 KIF9	CAPITAL INVESTMENT IN SERVICES 72R					B RUBLES MARKHOZ	179
544 KIF9TA	INVENTORY STOCK, END YEAR, NON-TRADE, NON-AGRIC, 1970 PRICES					B 1970 R TRAN	1.5
541 KIF9TA	INVENTORY STOCK, END YEAR, DOMESTIC TRADE, 1970 PRICES					B 1970 R TRAN	1.24
474 KIF9	INVESTMENT, NATIONAL ECONOMY					B RUBLES TRAN	1.22
259 KIF9B	CAPITAL INVESTMENT IN TRANSPORT & COMMUNICATIONS					B RUBLES MARKHOZ	0191
546 KIF9A	CHANGE IN INV. STOCK, END YEAR AT 1970 PRICES, NON-TRADE, NON-AGRIC					B RUBLES MARKHOZ	0158
545 KIF9	CHANGE IN INV. STOCK, END YEAR AT 1970 PRICES, DOMESTIC TRADE					B 1970 R TRAN	158B
435 KIF9	SUS. OF DEVIATIONS FROM MONTHLY PRECIPITATION VALUES					B 1970 R TRAN	1.23
611 KIF9	WEATHER INDEX, WINTER TEMP INDEX FOR SOUTHERN UKRAINE					CW IMS	98C
542 KIF9	AGRICULTURAL FIXED CAPITAL					NONE	
423 KIF9A	BASIC FOMS: TRADE, SUPPLY, OTHER (JAN.1), 1955 PRICES					B RUBLES DIAMOND	351
461 KIF9	BASIC FOMS: CONSTRUCTION (JAN. 1, 1955 PRICES)					A.1955R. NKH	391
502 KIF9	ACQUIS. BASIC FOMS: HOUSING (JAN. 1, 1955 PRICES)					B RUBLES IRAN	0361
427 KIF9F	BASIC FOMS IN HOUSING (JAN. 1, 1955 PRICES)					B RUBLES MARKHOZ	0421
507 KIF9	ACQUIS. BASIC FOMS, INDUSTRY (JAN. 1, 1955 PRICES)					B RUBLES TRAN	0381
459 KIF9F	BASIC FOMS, CHEMICALS, WESTERN IMPORTS, JAN.1					B.1955R. CG	K.12
165 KIF9	CAPITAL STOCK, CHEMICALS AND PETROCHEMICALS (JAN.1)					B.1955R. COIN 70	K.10
164 KIF9	CAPITAL STOCK, CONSTRUCTION MATERIALS					B.1955R. COIN 70	K.14
159 KIF9	CAPITAL STOCK, COAL PRODUCTS					B.1955R. COIN 70	K.12
153 KIF9	CAPITAL STOCK, ELECTRIC POWER					B.1955R. COIN 70	K.2
627 KIF9	INDUSTRIAL CAPITAL DERIVED FROM WESTERN IMPORTS (END YEAR VALUE)					B.1970RUB. DNG	441
161 KIF9	CAPITAL STOCK, FERROUS METALS					B.1955R. COIN 70	K.18
163 KIF9	CAPITAL STOCK, FOREST PRODUCTS					B.1955R. COIN 70	K.25
506 KIF629	BASIC FOMS: ADJUSTMENT FOR 1962-1H TRANSFER OF HOUSING CAPITAL					B.1955R. COIN 70	K.31
520 KIF629	BASIC FOMS: ADJUSTMENT FOR 1962-1H TRANSFER OF HOUSING CAPITAL					B RUBLES TRAN	179E
165 KIF9	BASIC FOMS: WESTERN IMPORTS, JAN.1					B.1955R. DG	340I
166 KIF9	CAPITAL STOCK, MACHINERY-OUTLIFTING AND METAL-WORKING					B.1955R. COIN 70	K.29
167 KIF9	CAPITAL STOCK, PROCESSCO FOMS					B.1955R. COIN 70	K.37
977 KIF9	BASIC FOMS, PETROLEUM PRODUCTS, TOTAL IMPORTS (JAN.1)					B.1955R. DNG	331I
168 KIF9	CAPITAL STOCK, PETROLEUM PRODUCTS					B.1955R. COIN 70	K.42
167 KIF9	CAPITAL STOCK, SOFT GOODS					B.1955R. COIN 70	K.23
169 KIF9	CAPITAL STOCK, TOTAL INDUSTRY					B.1955R. COIN 70	K.35
505 KIF9	BASIC FOMS: ADJUSTMENT FOR 1956-1-1 TRANSFER OF RR CAPITAL (AT DEC 31)					B RUBLES TRAN	179E
519 KIF9	NET CHANGE IN BASIC FOMS, CONSTRUCTION					B RUBLES TRAN	1633
516 KIF9	NET CHANGE IN BASIC FOMS, DOMESTIC TRADE					B.1955R. NKH	K.11
511 KIF9	NET CHANGE IN BASIC FOMS, INDUSTRY					B RUBLES TRAN	1663
514 KIF9	NET CHANGE IN BASIC FOMS, TRANSPORT & COMMUNICATIONS					B RUBLES TRAN	K.3
201 KIF9	NET CHANGE IN BASIC FOMS: CHEMICAL & PETROCHEMICAL					B RUBLES TRAN	K.8
204 KIF9	NET CHANGE IN BASIC FOMS: CONSTRUCTION MATERIALS					B.1955R. NKH	172B
196 KIF9	NET CHANGE IN BASIC FOMS: COAL PRODUCTS					B.1955R. NKH	175B
197 KIF9	NET CHANGE IN BASIC FOMS: ELECTRIC ENERGY					B.1955R. NKH	169B
							K.20

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SERIES LABEL	DESCRIPTION	QTR	MON	ANN	UNITS	SOURCE	VAR# EQUI
200 K11P	NET CHANGE IN BASIC FUDGS: FERROUS METALLURGY				B.1955R.	NKH	1718 K.26
203 K11P	NET CHANGE IN BASIC FUDGS: FOREST PRODUCTS				B.1955R.	NKH	1748 K.32
202 K11Q	NET CHANGE IN BASIC FUDGS: MACHINE-BUILDING & METAL-WORKING				B.1955R.	NKH	1736 K.30
205 K11P	NET CHANGE IN BASIC FUDGS: PROCESSED FOOD				B.1955R.	NKH	1773 K.35
193 K11P	NET CHANGE IN BASIC FUDGS: PETROLEUM PRODUCTS				B.1955R.	NKH	1703 K.29
205 K11Q	NET CHANGE IN BASIC FUDGS: SOFT GOODS				B.1955R.	NKH	1763 K.36
194 K11P	NET CHANGE IN BASIC FUDGS: SERVICES (MANU)				B.1955R.	NKH	1678 K.16
207 K11Q	BASIC FUDGS, INDUSTRIAL ECONOMY, JULY 1				B.1955R.	NKH	901 K.15
494 K11A	ADJUSTED BASIC FUDGS, TRANSPORT AND COMMUNICATION (JAN 1, 1955 PRICES)				B.1955R.	TRAN	1541 K.39
504 K11A	RAILROAD CAR UTILIZATION, AVE 24HR DISTANCE PER AIRPORT CAR				B.1955R.	TRAN	0431 K.7
423 K11S	BASIC FUDGS, TRAV. 2 COIN JAN 1, 1955 PRICES				KMS/24HR	SWA2103	0978 K.9
403 K11A	PERCENT OF CUM: LIVESTOCK BEING FATTENED & YOUNG LIVESTOCK				B.1955R.	TRAN	0371 K.6
441 K11A	IMPORTS FPC: CEA OF CEA CATEGORY IV COMMODITIES				PERCENT	NARNOZ	104E
714 K11A	IMPORTS OF FOOD AND DRINK, CONS. GDS, EXCLUDED GRAIN, FROM THE DM				MRB	INDIANA	2788 K.2
732 K11A	IMPORTS FROM CEA OF CEA CATEGORY I COMMODITIES				MRB	INDIANA	2788 K.2
734 K11A	IMPORTS FROM CEA OF CEA CATEGORY II COMMODITIES				MRB	INDIANA	2788 K.2
734 K11A	GRAIN IMPORTS FROM THE DM				MRB	INDIANA	2778 K.3
735 K11A	GRAIN IMPORTS FROM THE FR				MRB	INDIANA	2778 K.3
977 K11A	IMPORTS, WEST, CHEMICAL EQUIPMENT				MRB	INDIANA	2841 K.10
692 K11A	IMPORTS, DEVELOPED WEST, MACHINERY & EQUIPMENT/LESS TRANSPORT EQUIP.)				MRB	INDIANA	3428 K.21
736 K11A	IMPORTS FPC: CEA OF CEA CATEGORY I COMMODITIES				MRB	INDIANA	2118 K.10
736 K11A	MACHINERY IMPORTS FROM THE DM				MRB	INDIANA	2768 K.2
727 K11A	IMPORTS FROM THE DM OTHER THAN GRAIN				MRB	INDIANA	2818 K.7
728 K11A	IMPORTS FROM YUGOSLAVIA AND THE FAR EASTERN SOCIALIST COUNTRIES				MRB	INDIANA	2808 K.6
761 K11A	IMPORTS FROM CEA OF CEA CATEGORY II COMMODITIES				MRB	INDIANA	2878 K.13
709 K11A	IMPORTS FROM THE DM OTHER THAN MACHINERY, CONS., OR UNSPEC.				MRB	INDIANA	2750 K.1
731 K11A	TOTAL IMPORTS FROM CHINA				MRB	INDIANA	2831 K.9
777 K11A	TOTAL IMPORTS FROM CEA, CEA/EXCL. YUGOSLAVIA, ALBANIA)				MRB	INDIANA	2808 K.14
767 K11A	TOTAL IMPORTS FROM THE DEVELOPED WEST				MRB	INDIANA	2791 K.5
773 K11A	TOTAL IMPORTS FROM LOC				MRB	INDIANA	2851 K.11
978 K11A	IMPORTS, TOTAL, MACHINERY (ITIN 10 : METALWORKING MACHINERY)				MRB	INDIANA	311E K.12
978 K11A	IMPORTS, TOTAL, MACHINERY (ITIN 12 : MINING, METALLURGY, PETROLEUM)				MRB	INDIANA	311E K.12
761 K11A	TOTAL IMPORTS FROM THE WORLD				MRB	INDIANA	3430 K.19
763 K11A	TOTAL IMPORTS FROM THE WORLD IN DOMESTIC CURRENCY				MRB	INDIANA	3418 K.20
712 K11A	UNSPECIFIED IMPORTS FROM CEA				MRB	INDIANA	2901 K.16
732 K11A	UNSPECIFIED IMPORTS FROM THE DM				MRB	INDIANA	311E K.17
759 K11A	UNSPECIFIED IMPORTS FROM THE WORLD				MRB	INDIANA	311E K.17
452 K11A	AGRICULTURAL EMPLOYMENT, PRIVATE (MAN-YEAR EQUIVALENTS)				M.PERSONS	FDAD75	663 N.12
493 K11A	AGRICULTURAL EMPLOYMENT, STATE AND COLLECTIVE FARMS				M.PERSONS	FDAD75	658 N.11
494 K11A	AGRICULTURAL EMPLOYMENT, TOTAL				M.PERSONS	FDAD75	671 N.13
744 K11A	POPULATION IN THE EUROPEAN CEA				M	UN	294E
646 K11A	HIGH ED.EMP.: ALL INDUSTRIAL CATEGORIES				M	NKH0Z	74E
625 K11A	HIGH ED.EMP.: METALLURGY				M	NKH0Z	334E
622 K11A	HIGH ED.EMP.: FISHING				M	NKH0Z	333E

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SERIES LABEL	DESCRIPTION	CTR	MON ANN	UNITS	SOURCE	VARM EQUF
639 METPAS	HIGH-ED. ENR. IN TRANSPORT, ENGINEERING-TECHNICAL WORKERS IN INDUSTRY		(1000)	UN	MARKHOZ	75E
390 MET	POPULATION, IN AFRICA, SOUTH AMERICA AND SOUTH ASIA	000 MEN	UN	MARKHOZ	0723 N.27	
745 MDC9	EMPLOYMENT, CONSTRUCTION	000 PERS	RAPAUTY8	603	N.5	
52 MEC	EMPLOYMENT, FORESTRY	000 PERS	RAPAUTY8	580	N.9	
49 MEF	EMPLOYMENT, GOVERNMENT AND SERVICES	000 PERS	TRAN	630	N.6	
695 MEG	EMPLOYMENT, INDUSTRIAL	000 PERS	RAPAUTY8	450	N.4	
48 MEL	EMPLOYMENT, INDUSTRIAL	000 PERS	RAPAUTY8	510	N.19	
5 MELC1	AVERAGE ANNUAL EMPLOYMENT, BRANCH:CHEMICALS & PETROCHEMICALS	000 PERSONS	RAPAUTY	548	N.23	
9 MELC2	AVERAGE ANNUAL EMPLOYMENT, BRANCH:CONSTRUCTION MATERIALS	000 PERSONS	RAPAUTY	478	N.15	
3 MELC3	AVERAGE ANNUAL EMPLOYMENT, BRANCH:GOAL PRODUCTS	000 PERSONS	RAPAUTY	460	N.14	
2 MELD	AVERAGE ANNUAL EMPLOYMENT, BRANCH:INDUCTION ENERGY	000 PERSONS	RAPAUTY	490	N.17	
6 MELF4	AVERAGE ANNUAL EMPLOYMENT, BRANCH:IRON-PETALLURGY	000 PERSONS	RAPAUTY	530	N.21	
900 MELFP	EMPLOYMENT, FOREST PRODUCTS (EXCL. PAPER)	000 PERSONS	RAPAUTY	520	N.20	
6 MELG	AVERAGE ANNUAL EMPLOYMENT, BRANCH:MACHINERY-BUILDING & METAL-WORKING	000 PERSONS	RAPAUTY	578	N.26	
13 MELH	AVERAGE ANNUAL EMPLOYMENT, BRANCH:MINING (ESTIMATED)	000 PERSONS	RAPAUTY	508	N.18	
7 MELIF	AVERAGE ANNUAL EMPLOYMENT, BRANCH:IRON-STEEL & FERROUS METALLURGY	000 PERSONS	RAPAUTY	1898	N.22	
693 MELPA	ANNUAL EMPLOYMENT, PULP & PAPER	000 PERSONS	RAPAUTY	568	N.25	
12 MELPF	AVERAGE ANNUAL EMPLOYMENT, ORGANIC:PROCESS FOOD	000 PERSONS	RAPAUTY	488	N.16	
4 MELPP	AVERAGE ANNUAL EMPLOYMENT, ORGANIC:PETROLEUM PRODUCTS	000 PERSONS	RAPAUTY	550	N.24	
11 MELSC	AVERAGE ANNUAL EMPLOYMENT, BRANCH:SOFT GOODS (LIGHT INDUSTRY)	000 PERSONS	RAPAUTY	643	N.3	
43 MELA	EMPLOYMENT, ALL AGRICULTURAL SECTORS	000 PERSONS	RAPAUTY8	620	N.10	
61 MELS	EMPLOYMENT, ALL INDUSTRIAL SECTORS	000 PERSONS	RAPAUTY8	618	N.6	
53 MELT	EMPLOYMENT, TRADE ETC.	000 PERSONS	TRAN	610	N.7	
694 MELU	EMPLOYMENT, TRANSPORTATION AND COMMUNICATIONS	000 PERSONS	TRAN	620	N.1	
279 MEL9	POPULATION, ADULT BODIED AGES (16-59/54)					
356 MELR	POPULATION: RURAL (END YEAR)					
354 MELU	POPULATION: URBAN (END YEAR)					
4+6 MELP9	POPULATION, TOTAL	000 PERS	M PERS	M KH 72.7	0711 N.2	
'95 MELPA	SPECIALISTS, HIGH EDUCATION, INTERPOLATION WITH LAGGED ENROLLMENTS	000 PERS	M PERS	M KH 72.7	0708 N.1	
7+2 MELPA	POPULATION IN WESTERN EUROPE	000 PERS	M PERS	M KH 72.7	0708 N.1	
366 MELPA	PRICE FOOD SOLD TO CONSUMERS CO-OP'S AT NEGOTIATED PRICES, 1970 WEIGHTS	000 PERS	M KH+DG	738	N.28	
725 MELPA	WORLD IMPORT PRICES WEIGHTED BY SOVIET EXPORTS	1970=100.	UN	301C	P.3	
715 MELPA	UNIT VALUE PRICE OF ERICX	1963=100	HECET	296E		
418 MELPA	CONSUMPTION PRICE: FOOD (FROM PIRF70 & PAFC70)	1963=100	TRAN	190E		
755 MELPA	PRICE OF GOLD	1970=100	TRAN	1231	P.4	
756 MELPA	PRICE INDEX OF WORLD MARKET GRAIN PRICES	1963=100	WUSUTON	ESTIMATE		
407 MELPA	INVESTMENT DEFlator, AGRICULTURE	1972=100	UN	299E		
405 MELPA	INVESTMENT DEFlator, CONSTRUCTION SECTOR	1972=100	MARKHOZ	1338	P.13	
429 MELPA	INVESTMENT DEFlator, HOUSING	1972=100	MARKHOZ	1293	P.9	
406 MELPA	INVESTMENT DEFlator, INDUSTRY	1972=100	MARKHOZ	1328	P.12	
573 MELPA	INDEX OF STATE RETAIL PRICES FOR FOOD GOODS (DEFLATED)	1970=100	MARKHOZ	1288	P.8	
409 MELPA	INVESTMENT DEFlator, SERVICES	1972=100	TRAN	1218	P.2	
408 MELPA	INVESTMENT DEFlator, TRANSPORT AND COMMUNICATIONS	1972=100	MARKHOZ	1310	P.11	
549 MELPA	INDEX OF WHOLESALE INDUSTRIAL PRICES, HEAVY INDUSTRY (DEFLATED)	1970=100	MARKHOZ	1308	P.10	
575 MELPA	INDEX OF WHOLESALE INDUSTRIAL PRICES, LIGHT AND FOOD INDUSTRY (DEFLATED)	1970=100	TRAN	1268	P.7	
				1258	P.6	

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SERIES LABEL	DESCRIPTION	QTR	MON	ANN	UNITS	SOURCE	VAR# EQU#
957	PRICE DEFLECTION, INTERMEDIATE MATERIALS AND SERVICES						
754	WORLD MARKET PRICES OF MANUFACTURED GOODS	1970=100			UN	393E	
717	WORLD MARKET PRICES OF MANUFACTURED GOODS	1963=100			UN	296E	
415	WORLD MARKET PRICES, FOOD-FOOD (FROM PINTF)	1963=100			HEWETT	310E	
419	CONSUMPTION PRICE, TOTAL (FROM PINTF/CC)	1970=100			TRAIN	120D	P.1
612	OFFICIAL EXCHANGE RATE OF THE HUAN IN DOLLARS	1970=100			NONE	124I	P.5
797	WORLD MARKET PRICES OF PETROLEUM PRODUCTS	1963=100			IMH	212E	
750	WORLD MARKET PRICES OF SUGAR IMPORTS FROM CUBA	1963=100			UN	193E	
794	WORLD SUGAR PRICES	1963=100			DER	314E	
375	SOVIET TRADE WITH WORLD, IMPORTS, OFFICIAL PRICE INDEX	1970=100			UN	316E	
PTX9	PRICES OF TOTAL WORLD IMPORTS	1963=100			UN	318E	
PTX5	SOVIET TRADE WITH WORLD, EXPORTS, OFFICIAL PRICE INDEX	1970=100			UN	194E	
PTX9	PRICES OF TOTAL WORLD EXPORTS	1970=100			V.TORG	509E	
571	PRICES, PRICE DEFLECTION, MANUFACTURED GOODS	1972=100			NAMHOZ	127E	
970	EXPORT PRICE INDEX, AUTOMOTIVE, SITE 71, AUTOMOTIVE MACHINERY	1958=100			WEFA	213E	
431	FIVE-YEAR PLANNED CYCLE (1954-57, 62-64, 69-71, 74-76, ETC.)	1970=100			NDFR	344E	
463	LONG-TIME TREND 192=0	1963=100			UG	23E	
432	PRICES, CONSTRUCTION ACTIVITY	1963=100			TRAIN	161E	
550	PRICES, PRICE DEFLECTION, MANUFACTURED GOODS	1963=100			HOME	D-G	203E
491	PRICES, PRICE INDEX, AUTOMOTIVE, SITE 71, AUTOMOTIVE MACHINERY	1963=100			HOME	C-H	201E
561	SHIFT VARIABLE FOR 1968 Q4 =1	1963=100			HOME	C-H	201E
362	TIME VARIABLE WITH 1950=1 A.10 1973=24	1963=100			HOME	D-6	222E
6C1	SHIFT VARIABLE FOR 1967-19-9 (WAGE REFORM)	1963=100			HOME	160E	
773	SHIFT VARIABLE, SCALING VARIABLE OF EINACH 2.64-65=1.69-70=1.8.0 OTHERWISE	1963=100			HOME	C-H	226E
622	CURRENT VARIABLE FOR 1958=59	1963=100			HOME	195E	
37	CURRENT VARIABLE FOR 1958-60	1963=100			HOME	HOME	
620	CURRENT VARIABLE FOR 1958-61	1963=100			HOME	247E	
619	CURRENT VARIABLE FOR 1959	1963=100			HOME	HOME	
6E9	CURRENT VARIABLE FOR 1960-1964	1963=100			HOME	248E	
EC3	FUTURE VARIABLE FOR 1961	1963=100			HOME	HOME	
623	FUTURE VARIABLE FOR 1961-62	1963=100			HOME	229E	
624	FUTURE VARIABLE FOR 1961-64	1963=100			HOME	HOME	
616	FUTURE VARIABLE FOR 1961-65	1963=100			HOME	216E	
463	FUTURE VARIABLE FOR 1962	1963=100			HOME	217E	
763	FUTURE VARIABLE FOR 1960-62	1963=100			HOME	199E	
945	FUTURE VARIABLE FOR 1962-64	1963=100			HOME	208E	
626	FUTURE VARIABLE FOR 1963	1963=100			HOME	196E	
774	FUTURE VARIABLE FOR 1963-64	1963=100			HOME	243E	
642	FUTURE VARIABLE FOR 1963-65	1963=100			HOME	336E	
647	FUTURE VARIABLE FOR 1964-65	1963=100			HOME	332E	
651	FUTURE VARIABLE FOR 1964-66	1963=100			HOME	250E	
643	FUTURE VARIABLE FOR 1964-67	1963=100			HOME	204E	
642	FUTURE VARIABLE FOR 1965	1963=100			HOME	338E	
975	FUTURE VARIABLE FOR 1965-66	1963=100			HOME	338E	
644	FUTURE VARIABLE FOR 1965-1967	1963=100			HOME	214E	

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SERIES LABEL	DESCRIPTION	DOCUMENTATION			QTR	MON ANN	UNITS	SOURCE	VAR# EQU#
		QTR	MON	ANN					
4.0	683	Q1668	DEITY VARIABLE FOR 1966					NONE	215E
	684	Q1668	DEITY VARIABLE FOR 1966-1968					NONE	219E
577	617	Q167	DEITY VARIABLE FOR 1967					NONE	225E
624	26768	Q16768	DEITY VARIABLE FOR 1968, INDUSTRY WAGE					NONE	221E
520	Q169	Q169	DEITY VARIABLE FOR 1969-69					NONE	205E
690	Q169	Q169	DEITY VARIABLE FOR 1969-69					NONE	223E
780	Q170	Q170	DEITY VARIABLE FOR 1969-70					NONE	197E
689	269	269	DEITY VARIABLE FOR 1969					NONE	206E
645	26101	26101	DEITY VARIABLE FOR 1969-70					NONE	202E
627	371	371	DEITY VARIABLE FOR 1970					NONE	209E
993	Q16979	Q16979	DEITY VARIABLE FOR AGRICULTURE/FORESTRY					GDG	372E
992	RG1CC9	RG1CC9	RATIO GD/GX : CONSTRUCTION					GDG	366E
986	RG1C9Y	RG1C9Y	RATIO GD/GY : CHEMICALS & PETROCHEMICALS					GDG	366E
982	RG1C9X	RG1C9X	RATIO GD/GX : CONSTRUCTION MATERIALS					GDG	366E
982	RG1C9S	RG1C9S	RATIO GD/GX : CONSTRUCTION MATERIALS					GDG	352E
984	RG1C9P	RG1C9P	RATIO GD/GX : COAL PRODUCTS					GDG	364E
987	RG1C9P	RG1C9P	RATIO GD/GX : ELECTRIC ENERGY					GDG	367E
955	RG1C9P	RG1C9P	RATIO GD/GX : FINEST PROBLETS (INCL. PAPER)					GDG	365E
981	RG1C9Y	RG1C9Y	RATIO GD/GY : ARCHITECTURE/ BUILDING					GDG	371E
991	RG1C9Y	RG1C9Y	RATIO GD/GY : METALLURGY					GDG	376E
956	RG1C9Y	RG1C9Y	RATIO GD/GY : INDUSTRIC					GDG	370E
950	RG1C9Y	RG1C9Y	RATIO GD/GY : OTHER BRANCHES					GDG	367E
982	RG1C9Y	RG1C9Y	RATIO GD/GY : PROCESSED FOODS					GDG	369E
987	RG1C9Y	RG1C9Y	RATIO GD/GY : PETROLEUM PRODUCTS					GDG	374E
981	RG1C9Y	RG1C9Y	RATIO GD/GY : SOFT GOODS					GDG	375E
945	RG1C9Y	RG1C9Y	RATIO GD/GY : TRANSPORT/COMMUNICATIONS					GDG	1965=100.
614	RG1C9	RG1C9	RATIO GD/GY : DOMESTIC TRADE					NONE	245E
574	RG1C9	RG1C9	DEVIATIONS FROM MEAN OF TURNOVER TAX RATE (SMOOTHED)					NONE	216E
615	RG1C9	RG1C9	TAX RATE ADJUSTMENT, OTHER SOCIAL SECTOR					NONE	220E
974	RG1C9	RG1C9	RATIO VALUE ADJUSTMENT, PRICES) /GDP					GDG	307E
424	ST19	ST19	TURKEY OF AGRICULTURAL INPUTS, SOCHI AREA					B RUBLES	73JEC-393
421	TD.5	TD.5	REVENUES, MATERIALS FROM: STATE ENTERPRISES					B RUBLES	1410 T.1
585	TS12	TS12	REVENUES, OTHERS, CULTURAL, SOCIAL SECTORS					B RUBLES	1493 T.3
169	TP14	TP14	TOTAL STATE PRODUCTS (1972 FIGURES)					B RUBLES	1441 T.6
641	TP149	TP149	ADJUSTMENT FOR LOCAL TAXES/ADMISSION FEES, AND LOTTERIES					B RUBLES	251E
453	TP15	TP15	REFUGES, POPULATION (TURKE TAKES, STATE ROUNDS, LOTTERIES ETC)					B RUBLES	1433 T.5
449	TK1	TK1	STATE BUDGET, TOTAL REVENUES (CURRENT RUBLE)					B RUBLES	1451 T.4
454	TS13	TS13	SEVYUYES, SOCIAL INSURANCE, DEDUCTIONS					B RUBLES	1423 T.4
426	TI15	TI15	SEVYUYES, TURNOVER TAX					B RUBLES	1403 T.2
542	UG1A	UG1A	MATERIAL INPUTS, AGRICULTURE/FORESTRY, CUR. PRICES					GDG	3890U 2-13
941	UG1A	UG1A	MATERIAL INPUTS, CONSTRUCTION, CUR. PRICES					GDG	3860U 2-12
925	UG1A	UG1A	MATERIAL INPUTS, CHEMICALS & PETROCHEMICALS, CUR. PRICES					GDG	3820 U.2-6
957	UG1A	UG1A	MATERIAL INPUTS, CONSTRUCTION MATERIALS, CUR. PRICES					GDG	3848 U.2-6
931	UG1A	UG1A	MATERIAL INPUTS, COAL PRODUCTS, CUR. PRICES					GDG	3783 U.2-2
933	UG1A	UG1A	MATERIAL INPUTS, ELECTROENERGY, CUR. PRICES					GDG	3808 U.2-4

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SERIES LABEL	DESCRIPTION	OTR	MON	ANN	UNITS	SOURCE	VAR#	EOUR
936	MATERIAL INPUTS, FOREST PRODUCTS (INCL. PAPER), CUR. PRICES	1970=100				GDG	3430	U.2-7
934	MATERIAL INPUTS, MACHINE BUILDING, CUR. PRICES	1970=100				GNG	3918	U.2-5
930	MATERIAL INPUTS, METALLURGY, CUR. PRICES	1970=100				GNG	3778	U.2-1
940	MATERIAL INPUTS, MO. NEC., CUR. PRICES	1970=100				GNG	3470	U.2-1
945	MATERIAL INPUTS, OTHER BRANCHES, CUR. PRICES	1970=100				GNG	3470U.2-11	
939	MATERIAL INPUTS, PROCESSED FOODS, CUR. PRICES	1970=100				GNG	392AU.2-16	
932	MATERIAL INPUTS, PETROLEUM PRODUCTS, CUR. PRICES	1970=100				GNG	3665U.2-10	
938	MATERIAL INPUTS, SOFT SCOUR, CUR. PRICES	1970=100				GNG	3798	U.2-3
943	MATERIAL INPUTS, TRANSPORT/COMMUNICATIONS, CUR. PRICES	1970=100				GNG	3650	U.2-9
944	MATERIAL INPUTS, DOMESTIC TRADE, CUR. PRICES	1970=100				GNG	3900U.2-14	
594	WAGES, AGRICULTURE, STATE AND COLLECTIVE FARMS	1970=100				GDG	3910U.2-15	
265	WAGES, CONSTRUCTION					TRAN	1060	W.2
229	WAGES, INDUSTRY, GOVERNMENT & SERVICES					RUBLES	70JEC02	W.3
264	WAGES, INDUSTRY, DOMESTIC TRADE AND DISTRIBUTION					RUBLES	70JEC02	W.6
269	WAGES, DOMESTIC TRADE AND DISTRIBUTION					RUBLES	70JEC02	W.7
223	ANNUAL WAGE RATE, TRANSPORT & COMMUNICATIONS					CUR.R.	1098	W.5
766	TOTAL IMPORTS OF THE U.S.S.R.					NKH	1083	
785	TOTAL IMPORTS OF THE LDC'S					UN	W.	BUL2972
784	TOTAL IMPORTS OF THE WORLD					UN	W.	BUL3025
252	VALUATION ⁹					UN	W.RUL.305C	
966	INDEX OF AGRICULTURE/FORESTRY GND IN CURRENT PRICES					SR1	103C	
616	AGRICULTURAL PRODUCTION, TOTAL					GDG	3571U.1-13	
610	POTENTIAL AGRICULTURAL OUTPUT, XAT PEAK-TO-PEAK SMOOTHED					B RUBLES	880	X.6
367	YATPK					B RUBLES	86	X.6
367	YCHG0					DG	890	X.6
361	YCHG0					GNG	3561U.1-12	
363	YCHG0					GNG	3501	U.1-5
367	YCHG0					GNG	3521	U.1-9
243	YCHG0					GNG	3461	U.1-2
659	YEP00					B RUBLES	3480	X.2
652	YEP00					GNG	3466	U.1-4
756	YEP00					GNG	3511	U.1-7
739	YEP00					TONS	0ER	
741	YICH-1					DIAMOND	3370	X.19
740	YCHL-9					TONS	FAO	293E
741	YEPK					TONS	FAO	503E
739	YER00					DIAMOND	2958	X.19
960	YICH					TONS	FAN	300E
959	YICH					1970=100	0ER74	820
953	YICP					1970=100	0ER74	658
952	YIEP					1970=100	0ER74	788
945	YIFH					1970=100	0ER74	770
957	YIFP					1970=100	0ER74	800
961	YI-8					1970=100	0ER74	848
956	YIIF					1970=100	0ER74	838
955	YIPI					1970=100	0ER74	610
						1970=100	0ER74	1880

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SERIES LABEL	DESCRIPTION	OTR	MON	ANN	UNITS	SOURCE	VAR#	EQUI#
967 X1PF	PROCESSED FOODS	1970=100	OER74	878	X-1A			
954 X1PP	PETROLEUM PRODUCTS & GAS	1970=100	OER74	790	Y-9			
966 X1SG	SOFT GOODS	1970=100	OER74	868	X-17			
296 X1TO	INDUSTRIAL OUTPUT INDEX, TOTAL	1970=100	OER73	0768	X-1			
852 X1EGVO	INDEX OF MACHINE BUILDING GVO IN CURRENT PRICES	1966=100	GOG	3491	U-1-5			
856 X1ETGVO	INDEX OF METALLURGY GVO IN CURRENT PRICES	1966=100	GOG	3451	U-1-1			
866 X1FCVO	INDEX OF F.G. REC GVO IN CURRENT PRICES	1966=100	GOG	3551	U-1-11			
871 X1CGVO	INDEX OF OTHER BRANCHES GVO IN CURRENT PRICES	1966=100	GOG	3601	U-1-6			
865 X1PGVO	INDEX OF PROCESSED FOODS GVO IN CURRENT PRICES	1966=100	GOG	3541	U-1-10			
858 X1FGVO	INDEX OF PETROLEUM PRODUCTS GVO IN CURRENT PRICES	1966=100	GOG	3471	U-1-3			
79 X1SEI	INDEX OF SERVICES VALUE-ADDED, ESTABLISHED PRICES	1970=100	730ER	3558	X-4			
864 X1SGVO	INDEX OF SOFT GOODS GVO IN CURRENT PRICES	1966=100	CCC	3531	U-1-9			
792 X1SUG	SUGAR PRODUCTION OF CUBA	100000T	FAO	315E				
869 X1TCVO	INDEX OF TRANSPORT/COMMUNICATIONS GVO IN CURRENT PRICES	1966=100	GOG	3581	U-1-4			
870 X1TGV	INDEX OF DOMESTIC TRADE GVO IN CURRENT PRICES	1966=100	GOG	3591	U-1-15			
504 X1TAPE	INDEX OF RETAIL TRADE ACTIVITY	1968=100	OER	928	X-4			
380 X1TR	TRANS-COMM INDEX, 1970 WEIGHTS, RUBLE SERIES FOR COMM	1970=100	D-G	0918	X-3			
998 X1VAL	TOTAL VALUE-ADDED, 1-O FINAL DEMAND COLUMN NORMALIZATION	1963=100	B.CURK.R	2281	U-1-7			
148 Y1CDA	NET MATERIAL PRODUCT IN CONSTANT PRICES, CMEA	1963=100	URCTAO	192E				
20 Z1D	REAL HOUSEHOLD DISPOSABLE INCOME	1963=100	TRAN	1161	Z-6			
93 Z1F1	TOTAL AGRICULTURE FUNDS, NATIONAL ECONOMY	1963=100	B.CUR.R.	1178	Z-6			
460 Z1FFG39	PLANNED GROSS PROFITS, NATIONAL ECONOMY	1963=100	B.RUG	PRAVDA				
161 ZPS	TOTAL MONEY INCOME (1973 FIGURES)	73.JEC393	B.RUBLES	119E				
579 Z1FKA	HOUSEHOLD AGRICULTURAL INCOME IN KINO	73.JEC393	B.RUBLES	1141	7-4			
461 Z1G3	ACTUAL GROSS PROFITS, NATIONAL ECONOMY	73.JEC393	B.RUBLES	1153	Z-5			
166 Z1PC39	PROFITS DISTRIBUTED TO COOPERATIVE MEMBERS (1973 FIGURES)	73.JEC393	B.RUBLES	1168	Z-7			
183 Z1PC29	GROSS EARNINGS COOPERATIVE ARTISANS (1973 FIGURES)	73.JEC393	B.RUBLES	100E				
167 Z1PM29	MILITARY PAY AND ALLOWANCES (1973 FIGURES)	73.JEC393	B.RUBLES	3182E				
185 Z1PS3	NET HOUSEHOLD INCOME FROM SALE OF FARM PRODUCTS (1973 FIGURE)	73.JEC393	B.RUBLES	181E				
518 Z1PS4	WAGE PAYMENTS AGRICULTURE, STATE AND COLLECTIVE FARMS	73.JEC393	B.RUBLES	1138	Z-3			
973 ZR2	RESIDUAL INCOME * SODMO II	73.JEC393	B.RUBLES	1121	Z-3			
465 Z1Ku8	GROSS EARNINGS URBAN WORKERS	73.JEC393	B.RUBLES	2531	Z-9			
		TRAN	TRAN	1108	Z-1			

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IV. Equations*

Equations are arranged by sector in the sector-order given above. Behavioral equations are written in the form used for estimation with the sample mean value of the dependent variable shown in parentheses beneath it. In some cases auxiliary variables have been defined below the equation in which they appear. Such auxiliary variables serve only this presentation purpose and do not have model variable numbers.

Figures in parentheses under coefficients are t-statistics; absence thereof implies extraneous estimate. R^2 is the multiple correlation coefficient (unadjusted for degrees of freedom); S.E. is the standard error of estimate and D.W. the Durbin-Watson statistic; D is the normal variate devised by Durbin to test for first order serial correlation in the presence of a lagged dependent variable.

Final equations were estimated by ordinary least squares using T.S.P. (Time Series Processor).⁺

* In the estimation of SOVMOD II, valuable research assistance was provided by Michael Marrese, Marc Jarsulic, and Marc Rubin.

⁺ We are indebted to Jean-Pierre LeMaitre for assistance in adapting this program to our data files.

N POPULATION AND EMPLOYMENT(N.1) NPOPU Urban Population

$$\frac{100 \cdot NPOPU}{NPOP9} = - 78.13531 + 35.23935 QLT28$$

(14.26) (26.67)

(54.51)

$$\begin{aligned}
 & + 1.07249 \left(\frac{IHS}{IHS-1} - 1. \right) - 2 \\
 & + 0.01432 \left\{ \frac{100 \cdot WI\&}{(ZPWSC\& + ZPWS\&)/(NAT/10.3)} \right\} - 2 \\
 & - 2.69524 \left\{ \left(\frac{XAT-1}{XATPK-1} + \frac{XAT-2}{XATPK-2} - 2. \right) / 2. \right\}
 \end{aligned}$$

$R^2 = 0.998$ S.E. = 0.16 D.W. = 1.67
Sample Period 1960-1973

(N.2) NPOPR Rural Population

$$NPOPR = NPOP9 - NPOPU$$

(N.3) NMNA Nonagricultural Employment

$$\frac{.1 * NMNA}{(NPOPU-1 + NPOPU)/2} = 23.75604 QLT28 (1. - Q69ON)$$

(12.25)

(56.13)

$$+ 89.38518 Q69ON + 0.02757 \left(\frac{NPAB9 + NPAB9-1}{NPOP9 + NPOP9-1} \right)$$

(12.96) (1.72)

$$+ 8.3782 \left(\frac{WI\&/PRC}{WI\&-1/PRC-1} \right)$$

(1.37)

(N.3) NMNA Nonagricultural Employment, Continued

$$- 52.72211 \{ \frac{(NPOPU+NPOPU-1) + (NPOPU-1 + NPOPU-2)}{(4.86) (NPOPU-1+NPOPU-2) + (NPOPU-2+NPOPU-3)} \}$$

$R^2 = 0.995$ S.E. = 0.24 D.W. = 1.44
Sample Period 1959-1973

(N.4) NMI Industrial Employment

$$\frac{100.NMI}{NMNA} = 0.92375 \left(\frac{100.NMI}{NMNA} \right)_{-1} - 0.00116 \left(\frac{100.NMC}{NMNA} \right)_{-1}$$

(40.153)

$$+ 0.23506 \left(\frac{100.NMTC}{NMNA} \right)_{-1}$$

$$- 2.11470 \left(\frac{100.NMS}{NMNA} \right)_{-1} + 0.71934 \left(\frac{100.NMG}{NMNA} \right)_{-1}$$

$$- 2.2286 \left(\frac{INA}{INA} \right)_{-1} - 1.$$

$R^2 = 0.997$ S.E. = 0.094 D.W. = 2.35
Sample Period 1957-1973 D. = 0.74

(N.5) NMC Construction Employment

$$\begin{aligned}
 \frac{100 \cdot NMC}{NMNA} &= 0.07432 \left(\frac{100 \cdot NMI}{NMNA} \right)_{-1} - 0.72402 \left(\frac{100 \cdot NMC}{NMNA} \right)_{-1} \\
 (10.998) & \\
 &- 0.14580 \left(\frac{100 \cdot NMTC}{NMNA} \right)_{-1} \\
 &+ 1.67705 \left(\frac{100 \cdot NMS}{NMNA} \right)_{-1} - 0.50598 \left(\frac{100 \cdot NMG}{NMNA} \right)_{-1} \\
 &+ 3.35792 \left(\frac{INA}{INA-1} \right)
 \end{aligned}$$

$R^2 = 0.900$ S.E. = 0.144 D.W. = 2.25
 Sample Period 1957-1973 D. = 0.69

(N.6) NMTC Transport and Communications Employment

$$\begin{aligned}
 \frac{100 \cdot NMTC}{NMNA} &= 0.00854 \left(\frac{100 \cdot NMI}{NMNA} \right)_{-1} + 0.02394 \left(\frac{100 \cdot NMC}{NMNA} \right)_{-1} \\
 (12.070) & \\
 &+ 0.94521 \left(\frac{100 \cdot NMTC}{NMNA} \right)_{-1} \\
 &+ 1.05191 \left(\frac{100 \cdot NMS}{NMNA} \right)_{-1} - 0.35967 \left(\frac{100 \cdot NMG}{NMNA} \right)_{-1}
 \end{aligned}$$

(N.6) NMTC Transport and Communications Employment, Continued

$$+ 1.16270 \left(\frac{\text{INA}}{\text{INA}_{-1}} - 1 \right)$$

$R^2 = 0.989$ S.E. = 0.062 D.W. = 2.01
 Sample Period 1957-1973 D. = 0.02

(N.7) NMS Domestic Trade Employment

$$\frac{100 \cdot \text{NMS}}{\text{NMNA}} = 0.0507 \left(\frac{100 \cdot \text{NMI}}{\text{NMNA}} - 1 \right) + 0.08538 \left(\frac{100 \cdot \text{NMC}}{\text{NMNA}} - 1 \right)$$

(8.896)

$$- 0.17491 \left(\frac{100 \cdot \text{NMTC}}{\text{NMNA}} - 1 \right)$$

$$+ 0.70146 \left(\frac{100 \cdot \text{NMS}}{\text{NMNA}} - 1 \right) + 0.07343 \left(\frac{100 \cdot \text{NMG}}{\text{NMNA}} - 1 \right)$$

$$- 0.83225 \left(\frac{\text{INA}}{\text{INA}_{-1}} - 1 \right)$$

$R^2 = 0.997$ S.E. 0.041 D.W. = 1.77
 Sample Period 1957-1973 D. = 1.20

(N.8) NMG Services Employment

$$\frac{100 \cdot NMG}{NMNA} = -0.01470 \left(\frac{100 \cdot NMI}{NMNA} \right)_{-1} + 0.11300 \left(\frac{100 \cdot NMC}{NMNA} \right)_{-1}$$

(26.267)

$$+ 0.03348 \left(\frac{100 \cdot NMTC}{NMNA} \right)_{-1} - 0.18159 \left(\frac{100 \cdot NMS}{NMNA} \right)_{-1}$$

$$+ 1.03535 \left(\frac{100 \cdot NMG}{NMNA} \right)_{-1} - 2.27867 \left(\frac{INA}{INA} \right)_{-1}$$

$R^2 = 0.997$ S.E. = 0.067 D.W. = 2.64
 Sample Period 1957-1973 D. = 1.51

(N.9) NMF Forestry Employment

$$\frac{100 \cdot NMF}{NMNA} = 0.009133 \left(\frac{100 \cdot NMI}{NMNA} \right)_{-1} - 0.063775 \left(\frac{100 \cdot NMC}{NMNA} \right)_{-1}$$

(0.606)

$$+ 0.094811 \left(\frac{100 \cdot NMTC}{NMNA} \right)_{-1}$$

$$+ 0.22939 \left(\frac{100 \cdot NMS}{NMNA} \right)_{-1} - 0.086497 \left(\frac{100 \cdot NMG}{NMNA} \right)_{-1}$$

(N.9) NMF Forestry Employment

$$+ 0.16160 \left(\frac{INA}{INA_{-1}} - 1 \right)$$

$$R^2 = 0.944 \quad S.E. = 0.023 \quad D.W. = 1.06$$

Sample Period 1957-1973

(N.10) NMO Other Branch Employment

$$\frac{100.NMO}{NMNA} = - 0.029339 \left(\frac{100.NMI}{NMNA} \right)_{-1} + 0.24467 \left(\frac{100.NMC}{NMNA} \right)_{-1}$$

(1.010)

$$- 0.21841 \left(\frac{100.NMTC}{NMNA} \right)_{-1}$$

$$- 1.48453 \left(\frac{100.NMS}{NMNA} \right)_{-1} + 0.58859 \left(\frac{100.NMG}{NMNA} \right)_{-1}$$

$$- 0.96157 \left(\frac{INA}{INA_{-1}} - 1 \right)$$

$$R^2 = 0.900 \quad S.E. = 0.108 \quad D.W. = 1.09$$

Sample Period 1957-1973

(N.11) NASK Agricultural Employment, State and Collective Farms

$$\begin{aligned}
 \frac{100 \cdot NASK}{(NPOPR+NPOPR_{-1})/2.} &= 0.78311 \left[\frac{100 \cdot NASK}{(NPOPR+NPOPR_{-1})/2.} \right]_{-1} \\
 (25.26) \\
 &+ 1.61122 \quad QLT28 - 0.27513 \quad QSH65 - 0.56095 \\
 &\quad (1.00) \qquad \qquad (1.48) \qquad \qquad (0.06) \\
 &- 0.25410 \quad JPS9 - 4.56542 \left(\frac{XAT_{-1}}{XATPK_{-1}} + \frac{XAT_{-2}}{XATPK_{-2}} - 2. \right) / 2.
 \end{aligned}$$

$R^2 = 0.813$ S.E. = 0.17 D.W. = 1.68
 Sample Period 1961-1973 D. = 0.80

(N.12) NAPRV Agricultural Employment, Private

$$\begin{aligned}
 \frac{NAPRV}{NASK} &= 0.46529 - 0.04081 \quad QSH65 - 0.00841 \quad JPS9 \\
 &\quad (24.24) \qquad (7.79) \qquad (1.61) \\
 &\quad (0.4163) \\
 &- 0.96807 \left[\frac{NPOPU/NPOPR}{(NPOPU/NPOPR)_{-1}} - 1. \right]
 \end{aligned}$$

$R^2 = 0.895$ S.E. = 0.0063 D.W. = 2.42
 Sample Period 1959-1973

(N.13) NAT Total Agricultural Employment

$$NAT \equiv NASK + NAPRV$$

(N.14) NMIEP Employment, Electroenergy

$$\frac{100 \cdot NMIEP}{NMI} = -10.46001 + 0.04162 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\ (1.889)$$

$$+ 1.11504 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1}$$

$$+ 0.02656 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} + 0.59063 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1}$$

$$- 0.07544 \left(\frac{INA}{INA-1} - 1. \right) + 1.44683 QLT28 \\ (1.08)$$

$R^2 = 0.973$ S.E. = 0.036 D.W. = 2.00
Sample Period 1957-1973

(N.15) NMICP Employment, Coal Products

$$\frac{100 \cdot \text{NMICP}}{\text{NMI}} = 24.13197 + 0.05559 \left(\frac{100 \cdot \text{NMIMB}}{\text{NMI}} \right)_{-1}$$

(4.425)

$$+ 0.07455 \left(\frac{100 \cdot \text{NMIFM}}{\text{NMI}} \right)_{-1}$$

$$+ 0.02658 \left(\frac{100 \cdot \text{NMICM}}{\text{NMI}} \right)_{-1} + 3.28373 \left(\frac{100 \cdot \text{NMIPP}}{\text{NMI}} \right)_{-1}$$

$$+ 1.88254 \left(\frac{\text{INA}}{\text{INA}_{-1}} - 1. \right) - 6.90990 \text{ QLT28}$$

$R^2 = 0.997$ S.E. = 0.064 D.W. 2.30
Sample Period 1957-1973

(N.16) NMIPP Employment, Petroleum Products

$$\begin{aligned}
 \frac{100 \cdot \text{NMIPP}}{\text{NMI}} &= 4.76174 + 0.03752 \left(\frac{100 \cdot \text{NMIMB}}{\text{NMI}} \right)_{-1} \\
 (0.847) &\quad (3.39) \quad (2.72) \\
 &- 0.24763 \left(\frac{100 \cdot \text{NMIFM}}{\text{NMI}} \right)_{-1} \\
 (2.81) & \\
 &+ 0.02381 \left(\frac{100 \cdot \text{NMICM}}{\text{NMI}} \right)_{-1} + 0.06767 \left(\frac{100 \cdot \text{NMIPP}}{\text{NMI}} \right)_{-1} \\
 (1.27) & \\
 &+ 0.20798 \left(\frac{\text{INA}}{\text{INA}_{-1}} \right)_{-1} - 1.19394 \text{ QLT28} \\
 (1.88) & \quad (2.94)
 \end{aligned}$$

$R^2 = 0.903$ S.E. = 0.011 D.W. = 3.06
 Sample Period 1957-1973 D. = 3.35

(N.17) NMIFM Employment, Ferrous Metallurgy

$$\begin{aligned}
 \frac{100 \cdot \text{NMIFM}}{\text{NMI}} &= 3.22183 + 0.01766 \left(\frac{100 \cdot \text{NMIMB}}{\text{NMI}} \right)_{-1} \\
 (4.446) &\quad (0.90) \quad (0.50) \\
 &+ 0.77451 \left(\frac{100 \cdot \text{NMIFM}}{\text{NMI}} \right)_{-1} \\
 (3.44) & \\
 &+ 0.06205 \left(\frac{100 \cdot \text{NMICM}}{\text{NMI}} \right)_{-1} - 0.46494 \left(\frac{100 \cdot \text{NMIPP}}{\text{NMI}} \right)_{-1} \\
 (1.29) & \\
 &+ 0.17647 \left(\frac{\text{INA}}{\text{INA}_{-1}} \right)_{-1} - 0.79103 \text{ QLT28} \\
 (0.62) & \quad (0.76)
 \end{aligned}$$

$R^2 = 0.983$ S.E. 0.028 D.W. = 1.93
 Sample Period 1957-1973 D. = 0.39

(N.18) NMINF Employment, Non Ferrous Metallurgy

$$\begin{aligned}
 \frac{100 \cdot NMINF}{NMI} &= 14.82597 + 0.10362 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 (2.559) &\quad (6.04) \quad (4.30) \\
 &- 0.24017 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} \\
 &\quad (1.56) \\
 &+ 0.00908 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} - 0.50040 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} \\
 &\quad (0.28) \quad (1.55) \\
 &- 0.63786 \left(\frac{INA}{INA} \right)_{-1} - 3.95831 QLT28 \\
 &\quad (3.29) \quad (5.56)
 \end{aligned}$$

$R^2 = 0.990$ S.E. = 0.019 D.W. = 1.79
Sample Period 1957-1973

(N.19) NMICH Employment, Chemical and Petrochemical

$$\begin{aligned}
 \frac{100 \cdot NMICH}{NMI} &= - 23.48491 + 0.08489 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 (4.324) &\quad (4.40) \quad (1.62) \\
 &+ 2.07976 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} \\
 &\quad (6.20) \\
 &- 0.34042 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} - 0.38575 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} \\
 &\quad (4.77) \quad (0.55) \\
 &+ 0.18963 \left(\frac{INA}{INA} \right)_{-1} + 4.96972 QLT28 \\
 &\quad (0.45) \quad (3.21)
 \end{aligned}$$

$R^2 = 0.998$ S.E. = 0.041 D.W. = 1.97
Sample Period 1957-1973

(N.20) NMIMB Employment, Machine-Building and Metal-Working

$$\begin{aligned}
 \frac{100 \cdot NMIMB}{NMI} &= 4.62478 + 0.76670 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 (35.255) &\quad (0.18) \quad (3.03) \\
 &- 0.24136 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} - 0.01610 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} \\
 &- 9.13096 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} + 0.96943 \left(\frac{INA}{INA-1} \right)_{-1} \\
 &+ 3.55470 QLT28 \\
 R^2 &= 0.997 \quad S.E. = 0.199 \quad D.W. = 1.93 \\
 \text{Sample Period} & 1957-1973 \quad D. = *
 \end{aligned}$$

(N.21) NMIFP Employment, Forest Products

$$\begin{aligned}
 \frac{100 \cdot NMIFP}{NMI} &= 75.40619 + 0.16006 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 (9.607) &\quad (8.56) \quad (1.75) \\
 &- 2.51932 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} \\
 &+ 0.54956 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} - 2.29041 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} \\
 &+ 1.13075 \left(\frac{INA}{INA-1} \right)_{-1} - 17.00851 QLT28
 \end{aligned}$$

$$\begin{aligned}
 R^2 &= 0.998 \quad S.E. = 0.075 \quad D.W. = 1.98 \\
 \text{Sample Period} & 1957-1973
 \end{aligned}$$

(N.22) NMIPA Employment, Paper and Pulp

$$\begin{aligned}
 \frac{100 \cdot \text{NMIPA}}{\text{NMI}} &= -0.33794 - 0.000855 \left(\frac{100 \cdot \text{NMIMB}}{\text{NMI}} \right)_{-1} \\
 &\quad (0.24) \quad (0.06) \\
 (0.795) & \\
 \\
 &+ 0.085595 \left(\frac{100 \cdot \text{NMIFM}}{\text{NMI}} \right)_{-1} \\
 \\
 &- 0.07519 \left(\frac{100 \cdot \text{NMICM}}{\text{NMI}} \right)_{-1} + 0.35700 \left(\frac{100 \cdot \text{NMIPP}}{\text{NMI}} \right)_{-1} \\
 \\
 &- 0.04055 \left(\frac{\text{INA}}{\text{INA}_{-1}} - 1. \right) + 0.26434 \text{ QLT28} \\
 &\quad (0.33) \quad (0.63)
 \end{aligned}$$

$$R^2 = 0.874 \quad S.E. = 0.012 \quad D.W. = 2.19$$

Sample Period 1957-1973

(N.23) NMICM Employment, Construction Materials

$$\frac{100. NMICM}{NMI} = 9.12825 + 0.01611 \left(\frac{100. NMIMB}{NMI} \right)_{-1}$$

(6.407)

$$- 1.13350 \left(\frac{100. NMIFM}{NMI} \right)_{-1}$$

$$+ 0.88652 \left(\frac{100. NMICM}{NMI} \right)_{-1} + 2.08320 \left(\frac{100. NMIPP}{NMI} \right)_{-1}$$

$$+ 1.08117 \left(\frac{INA}{INA} - 1. \right) - 1.57299 QLT28$$

(1.20) (0.48)

 $R^2 = 0.908 \quad S.E. = 0.088 \quad D.W. = 2.38$

Sample Period 1957-1973 $D = 1.01$

(N.24) NMISG Employment, Soft Goods

$$\frac{100. NMISG}{NMI} = 11.64421 - 0.35485 \left(\frac{100. NMIMB}{NMI} \right)_{-1}$$

(16.18)

$$- 0.99600 \left(\frac{100. NMIFM}{NMI} \right)_{-1}$$

$$- 0.12314 \left(\frac{100. NMICM}{NMI} \right)_{-1} + 7.86867 \left(\frac{100. NMIPP}{NMI} \right)_{-1}$$

(N.24) NMISG Employment, Soft Goods, Continued

$$+ 2.82151 \left(\frac{INA}{INA_{-1}} - 1. \right) + 4.18015 QLT28$$

$$(1.69) \qquad \qquad \qquad (0.68)$$

$$R^2 = 0.966 \quad S.E. = 0.163 \quad D.W. = 1.91$$

Sample Period 1957-1973

(N.25) NMIPF Employment, Processed Foods

$$\frac{100.NMIPF}{NMI} - 5.7609 - 0.04514 \left(\frac{100.NMIMB}{NMI} \right)_{-1}$$

(9.406)

$$+ 1.94929 \left(\frac{100.NMIMB}{NMI} \right)_{-1}$$

$$- 0.33314 \left(\frac{100.NMICM}{NMI} \right)_{-1} + 3.63546 \left(\frac{100.NMIPPP}{NMI} \right)_{-1}$$

$$+ 0.09462 \left(\frac{INA}{INA_{-1}} - 1. \right) + 1.93847 QLT28$$

$$(0.15) \qquad \qquad \qquad (0.85)$$

$$R^2 = 0.965 \quad S.E. = 0.061 \quad D.W. = 2.13$$

Sample Period 1957-1973

g

(N.26) NMINC Employment, Industry NCE (Residual Branch)

$$\frac{100 \cdot NMINC}{NMI} = - 10.27373 - 0.90234 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\ (3.863)$$

$$- 0.50822 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1}$$

$$- 0.72073 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} - 4.93324 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1}$$

$$- 7.80506 \left(\frac{INA}{INA-1} - 1. \right) + 15.73648 QLT28 \\ (-2.43) \quad (1.33)$$

$R^2 = 0.814$ S.E. = 0.315 D.W. = 2.13
Sample Period 1957-1973

(N.27) NIET Engineering - Technical Employees in Industry (End Year)

$$NIET - NIET_{-1} = 0.16841 \frac{NEIND9_{-1} + NEIND9_{-2}}{2.}$$

(149.43)

$$- \frac{159.08975}{468} Q69ON$$

$$+ 154.92920 \left\{ \frac{2. (NIET_{-1} - NIET_{-2})}{NEIND9_{-1} + NEIND9_{-2}} - 0.13589 \right\}$$

 $R^2 = 0.726 \quad S.E. = 32.39 \quad D.W. = 1.26$

Sample Period 1958-1973

(N.28) NTSPA Specialists Employed in Transport and Communications

$$NTSPA - NTSPA_{-1} = 0.48120 \left(\frac{NETRA9_{-1} + NETRA9_{-2}}{2} \right)$$

(46.57)

$$+ 43.69722 \left\{ \frac{2. * (NTSPA_{-1} - NTSPA_{-2})}{NETRA9_{-1} + NETRA9_{-2}} - 0.49761 \right\}$$

 $R^2 = 0.895 \quad S.E. = 5.00 \quad D.W. = 1.60$

Sample Period 1958-1973

I Investment

(a) Non-Agricultural Investment, Sector Equations

(I.1a) IIN Capital Investment in Industry

$$\frac{IIN}{IIN_{-1}} - 1. = 0.06580 - 0.05812 Q6567 - 0.05178 Q69 \\ (6.66) \quad (4.51) \quad (2.88) \\ (0.074)$$

$$+ 0.26201 GFI + 0.17407 GPG - 0.21017 GDF \\ (2.29) \quad (3.34) \quad (5.30)$$

$R^2 = 0.851$ S.E. = 0.017 D.W. = 1.27
Sample Period 1959-1973

Where

$$GFI \equiv \frac{IFAJ\&/PII_{-1}}{IFAJ\&_{-1}/PII_{-2}} - 1. \\ GPG \equiv \frac{ZPG\&/PII_{-1}}{ZPG\&_{-1}/PII_{-2}} - 1. \\ GDF \equiv \frac{BDN\&9/PIWH70}{BDN\&9_{-1}/PIWH70_{-1}} - 1.$$

(I.2a) ICRUB Capital Investment in Construction

$$\frac{\text{ICRUB}}{\text{ICRUB-1}} - 1. = - 0.02216 \text{ QFYP} - 0.00726$$

$$- (0.69) \quad (0.14)$$

$$- (0.094)$$

$$+ 0.30240 \left(\frac{\text{XAT}}{\text{XATPK}} - 1. \right) + 1.97563 \text{ GINA}$$

$$+ (0.88) \quad (2.78)$$

$R^2 = 0.593$ S.E. = 0.055 D.W. = 2.71
Sample Period 1961-1973

Where

$$\text{GINA} \equiv \frac{\text{INA}}{\text{INA-1}} - 1.$$

(I.3a) ITRUB Capital Investment in Transport and Communications

$$\frac{\text{ITRUB}}{\text{ITRUB-1}} - 1. = 0.11595 - 0.03159 \text{ QFYP} - 0.07515 \text{ Q6567}$$

$$- (6.44) \quad (1.69) \quad (3.15)$$

$$- (0.092)$$

$$- 0.03214 \text{ Q69} + 0.17208 \text{ GFT} - 0.27395 \text{ GDF}$$

$$- (0.96) \quad (2.22) \quad (3.90)$$

$R^2 = 0.750$ S.E. = 0.030 D.W. = 1.86
Sample Period 1959-1973

(I.3a) ITRUB Capital Investment in Transport and Communications,
Continued

Where GDF defined above under (I.1a)

$$GFT \equiv \frac{IFTR&9/PIT-1}{IFTR&9-1/PIT-2} - 1.$$

(I.4a) IHS Capital Investment in Housing

$$\frac{IHS}{IHS-1} - 1. = 0.24476 - 0.00876 QT50 - 0.13795 Q6064
 (6.58) (4.78) (9.35)
 (0.038)$$

$$- 0.03773 Q69 - 0.05105 GDF
 (2.47) (1.40)$$

$R^2 = 0.940$ S.E. = 0.014 D.W. = 2.36
 Sample Period 1961-1973

GDF defined above under (I.1a)

(I.5a) ISER Capital Investment in Services and Domestic Trade

$$\frac{\text{ISER}}{\text{ISER}_{-1}} - 1. = 1.46506 - 0.02681 \text{ QFYP} - 0.36961 \text{ QLT28}$$

(0.076)

$$- 0.03311 \text{ Q69} + 0.55272 \left(\frac{\text{XAT}}{\text{XATPK}} + \frac{\text{XAT}_{-1}}{\text{XATPK}_{-1}} - 2. \right) / 2.$$

$$- 0.11793 \text{ GDF}$$

(1.29)

 $R^2 = 0.701 \quad \text{S.E.} = 0.042 \quad \text{D.W.} = 1.99$

Sample Period 1959-1973

GDF defined above under (I.1a)

(I.6a) INA Capital Investment, Total Non-Agricultural

$$\text{INA} \equiv \text{IIN} + \text{ICRUB} + \text{ITRUB} + \text{IHS} + \text{ISER}$$

(b) Alternate Investment Model

Total Non-Agricultural Investment determined by equation (I.6b). Sectoral Investment determined by exogenous share variables in equations (I.1b) - (I.5b).

(b) Alternate Investment Model, Continued(I.1b) $IIN \equiv IRII9 * INA / 100.$ (I.2b) $ICRUB \equiv IRIC9 * INA / 100.$ (I.3b) $ITRUB \equiv IRIT9 * INA / 100.$ (I.4b) $IHS \equiv IRIH9 * INA / 100.$ (I.5b) $ISER \equiv IRIS9 * INA / 100.$ (I.6b) INA Total Non-Agricultural Investment,

$$\frac{INA}{INA_{-1}} - 1. = 0.07384 - 0.013095 QFYP - 0.02078 Q6567$$

(0.069)

$$- 0.03235 Q69 + 0.14109 GPG - 0.13580 GDF$$

(1.14) (1.80) (2.38)

 $R^2 = 0.563$ S.E. = 0.026 D.W. = 1.06
 Sample Period 1959-1973

GPG and GDF defined above under (I.1a)

(I.7)

IA Capital Investment in Agriculture

$$\frac{IA}{IA_{-1}} - 1. = 0.05343 - 0.01262 QSH65 + 0.51819 GFA$$

(5.13) (0.79) (5.38)

(0.107)

$$- 0.17120 GDF + 0.37863 (\frac{XAT}{XATPK} - 1.)$$

(3.90) (3.61)

$$- 0.14341 (\frac{XAT}{XATPK} - 1.)_{-1}$$

(1.26)

$R^2 = 0.908$ S.E. = 0.015 D.W. = 2.12
 Sample Period 1961-1973

GDF defined above under (I.1a)

Where

$$GFA \equiv \frac{IFAG\&4/PIA_{-1}}{IFAG\&9_{-1}/PIA_{-2}} - 1.$$

(I.8) IFAJ& Adjusted Finance for Centralized Capital Investment

$$IFAJ\& \equiv IFIN\&9 - 4.9 QSH68_{-1}$$

(I.9) ITOTAL Total New Capital Investment in the National Economy

$$ITOTAL \equiv INA + IA$$

(a) Branch Investment, Direct Functions(I.10a) IIEP Capital Investment, Electroenergy

$$\frac{IIEP}{IIEP_{-1}} - 1. = -0.00416 + 0.8811 QFYP + 0.04703 Q6567$$

$$(0.053)$$

$$- 0.09926 Q69 + 0.27386 GFI$$

$$R^2 = 0.799 \text{ Sample Period S.E.} = 0.021 \text{ D.W.} = 1.85$$

GFI defined above under (I.1a).

(I.11a) IICP Capital Investment, Coal Products

$$\begin{aligned}
 \frac{\text{IICP}}{\text{IICP}_{-1}} - 1. &= + 0.03618 + 0.04771 \text{ QFYP} + 0.00816 \text{ Q6567} \\
 &\quad (2.29) \quad (2.66) \quad (0.38) \\
 &\quad (0.033) \\
 &\quad - 0.08948 \text{ Q69} - 0.28049 \text{ GDF} \\
 &\quad (3.28) \quad (4.66)
 \end{aligned}$$

$R^2 = 0.861$ S.E. = 0.025 D.W. = 1.62
 Sample Period 1961-1973

GDF defined above under (I.1a).

(I.12a) IIPP Capital Investment, Petroleum Products

$$\begin{aligned}
 \frac{\text{IIPP}}{\text{IIPP}_{-1}} - 1. &= 0.03409 + 0.05256 \text{ QFYP} - 0.13867 \text{ Q69} \\
 &\quad (2.01) \quad (3.28) \quad (4.57) \\
 &\quad (0.088) \\
 &\quad + 0.89909 \text{ GFI} - 0.23682 \text{ GDF} \\
 &\quad (3.94) \quad (3.46)
 \end{aligned}$$

$R^2 = 0.800$ S.E. = 0.026 D.W. = 2.26
 Sample Period 1961-1973

GFI and GDF defined above under (I.1a).

(I.13a) IIFM Capital Investment, Ferrous Metallurgy

$$\frac{\text{IIFM}}{\text{IIFM}_{-1}} - 1. = 0.16046 - 0.13377 \text{ QFYP} - 0.09740 \text{ Q6567} \\ (5.03) \quad (3.20) \quad (1.92) \\ (0.074)$$

$$- 0.06800 \text{ Q69} - 0.14867 \text{ GDF} \\ (0.92) \quad (1.00)$$

$R^2 = 0.588$ S.E. 0.068 D.W. = 2.77
Sample Period 1959-1973

GDF defined above under (I.1a).

(I.14a) IINF Capital Investment, Non-Ferrous Metallurgy
And Industry NEC

$$\frac{\text{IINF}}{\text{IINF}_{-1}} - 1. = 0.04625 - 0.07858 \text{ Q6567} - 0.04462 \text{ Q69} \\ (1.57) \quad (1.54) \quad (0.62) \\ (0.057)$$

$$+ 0.43727 \text{ GPG} - 0.26357 \text{ GDF} \\ (2.11) \quad (1.77)$$

$R^2 = 0.430$ S.E. = 0.069 D.W. = 2.65
Sample Period 1959-1973

GPG and GDF defined above under (I.1a).

(I.15a) IICH Capital Investment, Chemicals and Petrochemicals

$$\begin{aligned} \frac{IICH}{IICH_{-1}} - 1 &= 0.05286 + 0.16279 QSH65 - 0.13426 Q6567 \\ &\quad (1.61) \quad (3.71) \quad (3.18) \\ &\quad (0.093) \\ &+ 0.77878 GFI - 0.40080 GDF \\ &\quad (1.57) \quad (2.47) \end{aligned}$$

$R^2 = 0.838$ S.E. = 0.058 D.W. = 2.26
Sample Period 1961-1973

GFI and GDF defined above under (I.1a).

(I.16a) IIMB Capital Investment, Machine-Building and Metal-Working

$$\begin{aligned} \frac{IIMB}{IIMB_{-1}} - 1. &= 0.02103 - 0.02664 Q6567 + 0.07929 Q70 \\ &\quad (0.64) \quad (0.98) \quad (1.96) \\ &\quad (0.103) \\ &+ 0.40442 GPG + 0.35652 \left(\frac{IIMB}{IIMB_{-1}} - 1. \right)_{-1} \\ &\quad (3.17) \quad (1.71) \end{aligned}$$

(I.16a) IIMB Capital Investment, Machine-Building and Metal-Working, Continued

$R^2 = 0.747$ S.E. = 0.035 D.W. = 2.34
 Sample Period 1961-1973 D. = 1.04

GPG defined above under (I.1a)

(I.17a) IIFP Capital Investment, Forest Products

$\frac{IIFP}{IIFP_{-1}} - 1. = 0.11348 + 0.02928 QFYP - 0.10974 Q6567$
 $(4.77) \quad (1.25) \quad (3.72)$
 (0.057)

$- 0.12625 Q69 - 0.28559 GDF$
 $(3.10) \quad (3.32)$

$- 0.34833 \left(\frac{IIFP}{IIFP_{-1}} - 1. \right)_{-1}$

$R^2 = 0.791$ S.E. = 0.037 D.W. = 2.49
 Sample Period 1959-1973 D. = 1.26

GDF defined above under (I.1a).

(I.18a) IICM Capital Investment, Construction Materials

$$\frac{\text{IICM}}{\text{IICM}_1} - 1. = 0.03871 - 0.08803 \text{ Q6264} + 0.14422 \text{ Q6869}$$

(2.19) (2.60) (3.64)

(0.041)

$R^2 = 0.721$ S.E. = 0.050 D.W. = 2.46
 Sample Period 1961-1973

(I.19a) IISG Capital Investment, Soft Goods

$$\frac{\text{IISG}}{\text{IISG}_1} - 1. = 0.13957 - 0.11840 \text{ Q69} + 0.14302 \text{ GPG} + 0.16856 \text{ Q66}$$

(5.54) (2.48) (1.10) (3.43)

(0.098)

$$- 0.19383 \text{ GDF} - 0.41625 \left(\frac{\text{IISG}}{\text{IISG}_1} - 1. \right)_1$$

(2.03) (3.10)

$R^2 = 0.803$ S.E. = 0.046 D.W. = 1.15
 Sample Period 1959-1973 D. = 1.93

GPG and GDF defined above under (I.1a).

(I.20a) IIPF Capital Investment, Processed Foods

$$\frac{IIPF}{IIPF_{-1}} - 1. = 0.05915 - 0.03897 Q6567 - 0.03907 Q69 \\ (3.65) \quad (1.39) \quad (1.04) \\ (0.043)$$

$$+ 0.28097 GPG - 0.44939 GDF \\ (2.56) \quad (5.57)$$

 $R^2 = 0.326 \quad S.E. = 0.036 \quad D.W. = 2.25$

Sample Period 1961-1973

GPG and GDF defined above under (I.1a).

(b) Branch Investment, Share Equations

- (I.10b) $IIEP \equiv IREP9 * IIN$
- (I.11b) $IICP \equiv IRCP9 * IIN$
- (I.12b) $IIPP \equiv IRPP9 * IIN$
- (I.13b) $IIFM \equiv IRFM9 * IIN$
- (I.14b) $IINF \equiv IRNF9 * IIN$
- (I.15b) $IICH \equiv IRCH9 * IIN$
- (I.16b) $IIMB \equiv IRMB9 * IIN$
- (I.17b) $IIFP \equiv IRFP9 * IIN$

(b) Branch Investment, Share Equations, Continued

(I.18b) $IICM \equiv IRCM9 * IIN$

(I.19b) $IISG \equiv IRS9 * IIN$

(I.20b) $IIPF \equiv IRPF9 * IIN$

(I.21) I70T Change in Inventories, Domestic Trade

$$\begin{aligned}
 I70T = & 2.93819 - 0.10606 IS70T_{-1} + 0.05940 (CR-CRS-CRF) * \\
 & (5.07) \quad (1.30) \quad (1.02) \\
 (2.249) & + 0.29956 \{ (CR-CRS-CRF) * - (CR-CRS-CRF) - 0.45295 \} \\
 & (1.66) \\
 & + 0.10701 (XAT-XATPK_{-1} + 1.816) \\
 & (1.89) \\
 & - 0.25209 \left(\frac{100 BDN\&9}{PIWH70} - \frac{100 BDN\&9_{-1}}{PIWH70_{-1}} \right) - 0.50432
 \end{aligned}$$

$R^2 = 0.711$ S.E. = 0.567 D.W. = 1.82
Sample Period 1958-1972

Where $X^* \equiv X_{-1} \left(.1 \frac{X_{-1}}{X_{-2}} + .4 \frac{X_{-2}}{X_{-3}} + .4 \frac{X_{-3}}{X_{-4}} + .1 \frac{X_{-4}}{X_{-5}} \right)$

Projection from four previous growth rates.

(I.22) IS70T Stock of Inventories, Domestic Trade (End Year)

$$IS70T \equiv IS70T_{-1} + I70T$$

(I.23) I70NTA Change in Inventories, Non-Trade Non-Agricultural

$$\begin{aligned}
 I70NTA &= -0.69281 - 0.42559 I70NTA_{-1} + 0.18392 GNPNA^* \\
 &\quad (0.28) \quad (2.40) \quad (2.56) \\
 (6.156) & \\
 &- 0.40307 (GNPNA^* - GNPNA - .87371) \\
 &\quad (1.56) \\
 &+ 5.86858 Q66 \\
 &\quad (2.83)
 \end{aligned}$$

 $R^2 = 0.642$ S.E. = 1.952 D.W. = 1.66
 Sample Period 1958-1972
Where X^* defined above under (I.21)(I.24) IS70NTA Stock of Inventories, Non-Trade Non-Agricultural
(End-Year)

$$IS70NTA \equiv IS70NTA_{-1} + I70NTA$$

K CAPITAL(K.1) KITOT Industrial Basic Funds (Capital Stock) (Jan. 1)

$$KITOT_{+1} \equiv KITOT + KNDI$$

(K.2) KIA Adjusted Industrial Basic Funds (Jan. 1)

$$KIA_{+1} \equiv KITOT_{+1} - KIT589 - KIH629$$

(K.3) KNDI Industrial Capital Formation

$$KNDI + 0.05 KITOT = 1.09890 QFYP + 0.00886 IIN$$

$$(1.89) \qquad \qquad \qquad (0.03)$$

$$(22.197)$$

$$+ 0.3278 IIN_{-1} + 0.4327 IIN_{-2}$$

$$(16.57) \qquad \qquad \qquad (2.15)$$

$$+ 0.3234 IIN_3$$

$$(1.66)$$

 $R^2 = .980 \quad S.E. = 1.119 \quad D.W. = 1.24$

Sample Period 1959-1973

Distributed Lag: Quadratic, 4-Period, Zero-constrained
in 5th Period.

(K.4) KCR Construction Basic Funds (Jan. 1)

$$KCR_{+1} \equiv KCR + KNDC$$

(K.5) KNDC Construction Capital Formation

$$KNDC + 0.06 KCR = 0.33634 QPL5 + 0.93224 ICRUB$$

$$(2.06) \qquad \qquad \qquad (19.22)$$

$$(2.008)$$

$$R^2 = .902 \quad S.E. = 0.335 \quad D.W. = 1.58$$

Sample Period 1958-1973

(K.6) KTR Transport and Communications Basic Funds (Jan. 1)

$$KTR_{+1} \equiv KTR + KNDT$$

(K.7) KTA Adjusted Transport and Communications Basic Funds (Jan. 1)

$$KTA_{+1} \equiv KTR_{+1} + KIT589$$

(K.8) KNDT Transport and Communications Capital Formation

$$KNDT + 0.025 KTR = 2.48932 Q65 + 0.61840 (ITRUB+ITRUB_{-1})$$

$$(7.571) \qquad \qquad \qquad (56.73)$$

$$R^2 = .954 \quad S.E. = 0.513 \quad D.W. = 1.65$$

Sample Period 1959-1973

(K.9) KTCUS Freight Car Utilization Rate

$$KTCUS = 182.425 \text{ QSH65} + 3.97263 \text{ QSH65} * \text{QT50}$$

(35.46) (9.42)

(241.88)

$$+ 232.324 (1. - \text{QSH65}) + 1.02710 (1. - \text{QSH65}) * \text{QT50}$$

(39.96) (3.56)

$$- \frac{15.91244}{(3.24)} \left(\frac{\text{BDN\&9/PIWH70}}{\text{BDN\&9}_{-1}/\text{PIWH70}_{-1}} - 1. \right)$$

$R^2 = 0.981$ S.E. = 2.23 D.W. = 2.30
Sample Period 1958-1973

(K.10.) KCOM Basic Funds, Domestic Trade (Jan. 1)

$$KCOM_{+1} \equiv KCOM + KNCOM$$

(K.11) KNCOM Capital Formation, Domestic Trade

$$KNCOM + 0.02 KCOM = 3.62055 \text{ Q65} + 2.19175 \text{ Q68}$$

(9.29) (5.49)

(2.245)

(K.11) KNCOM Capital Formation, Domestic Trade, Continued

$$- \frac{1.93306}{4.80} Q69 + \frac{0.1096837}{17.80} (ISER_{-1} + ISER_{-2})$$

$$R^2 = 0.940 \quad S.E. = 0.379 \quad D.W. = 1.39$$

Sample Period 1960-1973

(K.12) KHBF Basic Funds, Housing (Jan. 1)

$$KHBF_{+1} \equiv KHBF + KNDH$$

(K.13) KNDH Housing Capital Formation

$$KNDH + 0.02 KHBF = - \frac{0.61240}{(1.33)} QFYP + \frac{7.89835}{(8.83)} Q62$$

(11.179)

$$+ \frac{0.48786}{39.18} (IHS + IHS_{-1})$$

$$R^2 = 0.914 \quad S.E. = 0.815 \quad D.W. = 2.18$$

Sample Period 1960-1973

(K.14) KHA Adjusted Housing Basic Funds (Jan. 1)

$$KHA_{+1} \equiv KHBF_{+1} + \frac{7.84}{1.74} KIH 629$$

(K.15) KSER Basic Funds, Services (Jan. 1)

$$KSER_{+1} \equiv KSER + KNSER$$

(K.16) KNSER Services Capital Formation

$$KNSER + 0.02 KSER = \frac{0.63499}{(0.78)} QFYP + \frac{4.49012}{(2.95)} Q63 \\ (8.839)$$

$$- \frac{4.41527}{(2.90)} Q70 + \frac{0.49879}{(19.46)} (ISER_{-3} + ISER_{-4})$$

$$R^2 = 0.890 \quad S.E. = 1.355 \quad D.W. = 1.15 \\ \text{Sample Period 1960-1973}$$

(K.17) KAIR Agricultural Basic Funds (excl. Productive Livestock) (mid-year)

$$KAIR - \frac{0.95}{(6.45)} KAIR_{-1} = \frac{0.55756}{(2.65)} QPL7 + \frac{0.67846}{(48.16)} \left(\frac{IA+IA-1}{2} \right)$$

$$R^2 = .976 \quad S.E. = 0.430 \quad D.W. = 1.82 \\ \text{Sample Period 1957-1972}$$

(K.18) KIF Industrial Capital, From Western Imports (End
Year Value)

$$KIF \equiv 0.95 KIF_{-1} + 0.1 MIEIN\$_{-1} * PREX9 / (P599/1.1852)_{-1}$$

(K.19) KIEP Basic Funds, Electroenergy (Jan. 1)

$$KIEP_{+1} \equiv KIEP + KNIEP$$

(K.20) KNIEP Capital Formation, Electroenergy

$$KNIEP + 0.04 KIEP = - 0.21295 QFYP + 1.38961 IIEP
(0.59) (1.13)$$

$$- 1.33388 (IIEP_{-1} + IIEP_{-2})
(1.66)$$

$$+ 1.52319 (IIEP_{-3} + IIEP_{-4})
(3.19)$$

$R^2 = 0.880$ S.E. = 0.522 D.W. = 2.34
Sample Period 1959-1973

(K.21) KICP Basic Funds, Coal Products (Jan. 1)

$$KICP_{+1} \equiv KICP + KNICP$$

(K.22) KNICP Capital Formation, Coal Products

$$KNICP + 0.03 KICP = 0.11613 QFYP - 0.30244 Q68$$

$$0.790 \quad (3.68) \quad (4.71)$$

$$+ 0.18559 (IICP + IICP-1 + IICP-2)$$

$$37.04$$

$R^2 = 0.856$ S.E. = 0.060 D.W. = 2.32
Sample Period 1959-1973

(K.23) KIPP Basic Funds, Petroleum Products (Jan. 1)

$$KIPP_{+1} \equiv KIPP + KNIPP$$

(K.24) KNIPP Capital Formation, Petroleum Products

$$KNIPP - 0.025 KIPP = - 0.44342 QFYP - 0.60611 Q6567$$

$$1.471 \quad (2.59) \quad (2.81)$$

$$+ 0.23246 (IIPP + IIPP-1 + IPP-2)$$

$$15.84$$

$R^2 = 0.868$ S.E. = 0.315 D.W. = 1.96
Sample Period 1959-1973

(K.25) KIFM Basic Funds, Ferrous Metallurgy (Jan. 1)

$$KIFM_{+1} \equiv KIFM + KNIFM$$

(K.26) KNIFM Capital Formation, Ferrous Metallurgy

$$KNIFM + 0.05 KIFM = 0.42263 (IIFM + IIFM-1 + IIFM-2) \\ (2.263) \quad (25.36)$$

$R^2 = 0.736$ S.E. = 0.357 D.W. = 2.16
Sample Period 1959-1973

(K.27) KICH Basic Funds, Chemicals and Petrochemicals (Jan. 1)

$$KICH_{+1} \equiv KICH + KNICH$$

(K.28) KNICH Capital Formation, Chemicals and Petrochemicals

$$KNICH + 0.04 KICH = 0.66416 QFYP \\ (2.064) \quad (2.73)$$

$$+ 0.51752 (IICH-1 + IICH-2) \\ (12.60)$$

$R^2 = 0.772$ S.E. = 0.476 D.W. = 2.05
Sample Period 1959-1973

(K.29) KIMB Basic Funds, Machine-Building and Metal-Working (Jan. 1)

$$KIMB_{+1} \equiv KIMB + KNIMB$$

(K.30) KNIMB Capital Formation, Machine-Building and Metal-Working

$$KNIMB + 0.05 KIMB = 0.23512 QFYP + 0.79425 Q66$$

(1.25) (2.13)

(4.666)

$$+ 0.57407 (IIMB + IIMB-1)$$

(40.40)

$R^2 = 0.973$ S.E. = 0.361 D.W. = 2.22
Sample Period 1959-1973

(K.31) KIFP Basic Funds, Forest Products (Jan. 1)

$$KIFP_{+1} \equiv KIFP + KNIFP$$

(K.32) KNIFP Capital Formation, Forest Products

$$KNIFP + 0.045 KIFP = 0.07759 QFYP$$

(0.82)

(1.034)

$$+ 0.44045 (IIFP + IIFP-1)$$

(17.39)

$R^2 = 0.749$ S.E. = 0.183 D.W. = 1.17
Sample Period 1959-1973

(K.33) KICM Basic Funds, Construction Materials (Jan.1)

$$KICM_{+1} \equiv KICM + KNICM$$

(K.34) KNICM Capital Formation, Construction Materials

$$KNICM + 0.04 KICM = 0.18611 Q69$$

(0.95)

(1.325)

$$- 1.24738 Q70 + 0.3480 IICM$$

(6.57) (i.51)

$$+ 0.3335 IICM_{-1} + 0.2707 IICM_{-2}$$

(22.62) (2.12)

$$+ 0.1595 IICM_{-3}$$

(1.28)

$R^2 = 0.896$ S.E. 0.173 D.W. = 1.57
Sample Period 1959-1973

Distributed Lag estimation: Quadratic, 4-Period,
Zero-Constrained in
5th Period.

(K.35) KISG Basic Funds, Soft Goods (Jan. 1)

$$KISG_{+1} \equiv KISG + KNISG$$

(K.36) KNISG Capital Formation, Soft Goods

$$KNISG + 0.05 KISG = 0.2546 IISG + 0.5098 IISG_{-1}$$

(0.39) (i.91)

(1.015)

$$+ 0.4249 IISG_{-2}$$

(0.88)

(K.36) KNISG Capital Formation, Soft Goods, Continued

$R^2 = 0.854$ S.E. = 0.163 D.W. = 2.14
 Sample Period 1959-1973

Distributed Lag estimation: Quadratic, 3-Period, Zero
 Constrained in 4th Period.

(K.37) KIPF Basic Funds, Processed Foods (Jan. 1)

$$KIPF_{+1} \equiv KIPF + KNIPF$$

(K.38) KNIPF Capital Formation, Processed Foods

$$KNIPF + 0.05 KIPF = 0.95911 Q61 \\ (1.852) \quad (3.63)$$

$$- 0.93297 Q62 + 0.1094 IIPF \\ (3.25) \quad (0.22)$$

$$+ 0.4942 IIPF_{-1} + 0.4577 IIPF_{-2} \\ (2.53) \quad (1.27)$$

$R^2 = 0.890$ S.E. = 0.234 D.W. = 1.52
 Sample Period 1959-1973

Distributed Lag estimation: Quadratic, 3-Period,
 Zero-constrained in
 4th Period.

(K.39) KSUM Basic Funds, National Economy (Mean Year)

$$KSUM \equiv KAIR + \frac{1}{2} (KIA + KCR + KTA + KCOM + KHA + KSER)_{+1} \\ + \frac{1}{2} (KIA + KCR + KTA + KCOM + KHA + KSER)$$

(K.40) KIPPF Basic Funds, Petroleum Products, World Imports

$$KIPPF \equiv 0.95 KIPPF_{-1} + 0.1 \left(\frac{MTM12\&}{P599/1.1852} \right)_{-1}$$

(K.41) KICHF Basic Funds, Chemicals and Petrochemicals, Western Imports

$$KICHF \equiv 0.95 KICHF_{-1} + 0.1 \left(\frac{MIECH\$*PREX9}{P599/1.1852} \right)_{-1}$$

(K.42) KIMBF Basic Funds, Machine-Building, World Imports

$$KIMBF \equiv 0.95 KIMBF_{-1} + 0.1 \left(\frac{MTM10\&}{P599/1.1852} \right)_{-1}$$

A OTHER AGRICULTURAL VARIABLES

Define $RXA \equiv \frac{XAT}{XATPK} - 1.$

(A.1) ALVR Livestock (Value in 1965 Rubles)

$$\frac{ALVR}{ALVR} - 0.95 = - 0.12038 - 0.00879 QT50$$

(1.29) (4.05)
(0.064)

$$+ 0.16540 \frac{XACTOAL9-1}{1000. ALVR-1} + 0.61302 \frac{KWAL9-1}{100.}$$

$$+ 0.26799 \left(\frac{RXA-1 + RXA-2}{2.} \right)$$

$R^2 = 0.777$ S.E. = 0.014 D.W. = 2.46
Sample Period 1959-1972

(A.2) AACI Index of Agricultural Current Purchases

$$\frac{AACI}{AACI} - 1. = 0.10286 - 0.00191 QT50 + 0.04577 Q65$$

(5.78) (2.00) (2.68)
(0.074)

$$+ 0.18955 RXA - 0.22840 \left(\frac{RXA-1 + RXA-2}{2.} \right)$$

$R^2 = 0.799$ S.E. = 0.014 D.W. = 1.63
Sample Period 1959-1972

X PRODUCTION(x.1) XITOT Industrial Output Index

Cobb-Douglas production functions with labor elasticity constrained to 0.560. No technical progress terms included.

Sample Period 1961-1972.

Define the following dependent variable:

$$LXIC \equiv \ln XITOT - 0.560 \{ 0.845 \ln (NMI-NIET) + 0.155 \ln NIET \} \\ (-1.1249)$$

(a) Capital Disaggregation, Dummy Variable Q6466 (ALT (6)=0)

$$LXIC = - \frac{3.41112}{(63.99)} - \frac{0.01896}{(6.35)} Q6466 + \frac{0.22751}{(7.04)} \ln \left(\frac{KIF+KIF-1}{2} \right) \\ + \frac{0.37416}{(17.25)} \ln \left(\frac{KIA_{+1}+KIA}{2} - \frac{KIF+KIF-1}{2} \right)$$

$$R^2 = 0.9996 \quad S.E. = 0.0043 \quad D.W. = 2.72$$

(b) Capital Disaggregation, No Dummy Variable (ALT (6)=1)

$$LXIC = - \frac{3.38701}{(27.48)} + \frac{0.26306}{(3.56)} \ln \left(\frac{KIF+KIF-1}{2} \right)$$

$$+ \frac{0.35578}{(7.14)} \ln \left(\frac{KIA_{+1}+KIA}{2} - \frac{KIF+KIF-1}{2} \right)$$

$$R^2 = 0.997 \quad S.E. = 0.0100 \quad D.W. = 1.08$$

(c) Aggregate Capital Series, Dummy Variable Q6466 (ALT (5)=2)

$$\ln \text{LXIC} = -3.81454 - 0.02207 \text{ Q6466} + 0.53136 \ln \left(\frac{\text{KIA}_{+1} + \text{KIA}}{2} \right)$$

(78.24) (3.22) (55.81)

$$R^2 = 0.997 \quad S.E. = 0.0101 \quad D.W. = 0.81$$

(d) Aggregate Capital Series, No Dummy Variable (ALT(6)=3)

$$\ln \text{LXIC} = -3.85139 + 0.53753 \ln \left(\frac{\text{KIA}_{+1} + \text{KIA}}{2} \right)$$

(58.36) (41.39)

$$R^2 = 0.994 \quad S.E. = 0.0140 \quad D.W. = 0.51$$

(X.2) XCRUB Construction Activity, State Enterprises

$$\ln \text{XCRUB} = -7.35112 + 1.07667 \ln \text{NMC} + 0.06603 \ln \left(\frac{\text{KCR}_{+1} + \text{KCR}}{2} \right)$$

(6.74) (7.93) (1.26)

(3.44)

$$+ 0.24571 \ln \text{XICM}$$

(4.59)

$$R^2 = 0.999 \quad S.E. = 0.012 \quad D.W. = 2.71$$

Sample Period 1958-1972

(X.3) XT7R Transport and Communications Index

$$\ln \text{XT7R} = -3.11578 + 0.76397 \ln \left(\frac{\text{KTA}_{+1} + \text{KTA}}{2} \right)$$

(3.16) (4.88)

(4.25)

(x.3) XT7R Transport and Communications Index, Continued

$$+ 0.14441 \ln \left(\frac{\text{NTSPA} + \text{NTSPA-1}}{2} \right)$$

$$(1.11)$$

$$+ 0.59203 \ln \text{KTCUS}$$

$$(3.20)$$

$R^2 = 0.999$ S.E. = 0.012 D.W. = 1.08
Sample Period 1958-1973

(x.4) XTRADE Domestic Trade Index

$$\ln \text{XTRADE} = - 0.88405 + 0.06606 \ln \left(\frac{\text{KCOM}_{+1} + \text{KCOM}}{2} \right)$$

$$(2.04) \quad (1.16)$$

$$(4.452)$$

$$+ 1.18384 \ln \frac{\text{XILT} + \text{XILT-1}}{2}$$

$$(8.74)$$

$R^2 = 0.996$ S.E. = 0.019 D.W. = 0.77
Sample Period 1960-1972

Where

$$\text{XILT} \equiv \frac{0.27744 \text{ XISG} + .38796 \text{ XIPF}}{(0.27744 + 0.38796)}$$

(1970 Value-Added Weights by Branch)

(x.5) XSER Services and Administration Output Index

$$\ln \text{XSER} = - 3.82213 + 0.73040 \ln \text{NMG}$$

$$(4.422) \quad (1.16) \quad (1.40)$$

$$+ 0.19967 \ln \frac{\text{KHBF}_{+1} + \text{KHBF} + \text{KSER}_{+1} + \text{KSER}}{2}$$

$$(0.58)$$

(X.5) XSER Services and Administration Output Index, Continued
 $R^2 = 0.994 \quad S.E. = 0.015 \quad D.W. = 1.97$

Sample Period 1960-1972

(X.6) XAT Agricultural Output
 $\ln XAT = \ln XATPK + LPRES$

Where $\ln XATPK$ is capacity output (linked peak) in agriculture obtained from:

$$\begin{aligned} \ln XATPK &= 0.74658 + 0.40105 \ln KAIR \\ (4.11) &\quad (0.68) \quad (16.37) \\ &+ 0.48752 \ln NAT - 0.05219 Q6465 \\ &\quad (1.76) \quad (3.70) \end{aligned}$$

 $R^2 = .987 \quad S.E. = 0.018 \quad D.W. = 1.14$

Sample Period 1959-1973

Actual LPRES is defined as

$\ln XAT - (\text{fitted}) \ln XATPK$ and obtained from:

$$\begin{aligned} LPRES &= -0.04404 + 0.09305 JPS9 + 0.51957 JTW9 \\ (5.52) &\quad (5.38) \quad (3.74) \\ (-0.032) & \\ &+ 1.60386 \left(\frac{NAT}{SAI9} - .39076 \right) + 0.07877 Q6465 \\ (3.89) &\quad (4.17) \end{aligned}$$

 $R^2 = .878 \quad S.E. = 0.024 \quad D.W. = 2.35$

Sample Period 1959-1973

(X.7a) XIEP Branch Output Index: Electroenergy

$$\begin{aligned} \ln XIEP = & - 0.17125 + 0.61955 \ln KIEP \\ & (0.23) \quad (10.03) \\ (4.208) \quad & + 0.40462 \ln NMIEP \\ & (2.71) \end{aligned}$$

$R^2 = 0.996$ S.E. = 0.030 D.W. = 0.70
Sample Period 1958-1973

(X.8a) XICP Branch Output Index: Coal Products

$$\begin{aligned} \ln XICP = & 2.42307 + 0.39983 \ln KICP \\ & (4.02) \quad (15.56) \\ (4.497) \quad & + 0.11452 \ln NMICP \\ & (1.42) \\ & + 0.10095 \ln \left(\frac{NEMIN9 + NEMIN9-1}{2} \right) \\ & (4.35) \end{aligned}$$

$R^2 = 0.993$ S.E. = 0.011 D.W. = 1.14
Sample Period 1958-1973

(X.9a) XIPP Branch Output Index: Petroleum Products

$$\begin{aligned} \ln XIPP - \frac{.667}{10.145} \ln NMIPP & = 3.00148 + 0.23498 \ln KIPPF \\ (3.968) \quad & + 0.43336 \ln (KIPP-KIPPF) \\ & (9.25) \end{aligned}$$

$R^2 = 0.997$ S.E. = 0.019 D.W. = 1.35
Sample Period 1960-1973

(X.10a) XIFM Branch Output Index: Ferrous Metallurgy

$$\ln XIFM = 0.30635 + 0.53367 \ln KIFM$$

(0.19) (8,67)
(4.330)

$$+ 0.36817 \ln NMIFM$$

(1.51)

$R^2 = 0.996$ S.E. = 0.019 D.W. = 1.27
Sample Period 1958-1973

(X.11a) XINF Branch Output Index: Non-Ferrous Metallurgy

$$\ln XINF = -1.82145 + 0.20921 \ln \frac{IINF + IINF_{-1}}{2.}$$

(1.31) (2.08)
(4.242)

$$+ 0.73740 \ln NMINF$$

(3.04)

$$+ 0.08038 \ln \left(\frac{NEMET9 + NEMET9_{-1}}{2.} \right)$$

$$+ 0.04501 QT50$$

(5.02)

$R^2 = 0.999$ S.E. = 0.011 D.W. = 1.48
Sample Period 1958-1973

(X.12a) XICM Branch Output Index: Construction Materials

$$\ln XICM = -6.02570 + 0.08493 \ln \frac{KICM_{+1} + KICM}{2.} \\ (2.34) \quad (2.01) \\ (4.304)$$

$$+ 1.29829 \ln NMICM + 0.02692 QT50 \\ (3.51) \quad (2.96)$$

$R^2 = 0.993$ S.E. = 0.032 D.W. = 0.96
Sample Period 1958-1973

(X.13a) XICH Branch Output Index: Chemicals & Petrochemicals

$$\ln XICH = -\frac{3053.}{8953.} \ln NMICH = 1.15104 + 0.48794 \ln KICHF \\ (5.19) \quad (2.08) \\ (1.823)$$

$$+ 0.22697 \ln (KICH-KICHF) \\ (1.78)$$

$R^2 = 0.980$ S.E. = 0.050 D.W. = 0.44
Sample Period 1960-1973

(X.14a) XIMB Branch Output Index: Machine-Building & Metal-Working

$$\ln XIMB = 1.05824 + 0.17078 \ln NMIMB + 0.16203 \ln KIMBF \\ (0.90) \quad (0.88) \quad (0.83) \\ (4.374)$$

$$+ 0.50608 \ln (KIMB-KIMBF) - 0.02081 Q6466 \\ (1.93) \quad (1.45)$$

(X.14a) XIMB Branch Output Index: Machine-Building & Metal-Working, Continued

$R^2 = 0.998$ S.E. = 0.015 D.W. = 2.08
 Sample Period 1960-1973

(X.15a) XIFP Branch Output Index: Forest Products

$$\ln XIFP - \frac{4.343}{7.472} \ln NMIFP = - 1.51307 + 0.43466 \ln KIFP$$

$$(-0.605) \qquad \qquad \qquad (30.91) \qquad \qquad (18.96)$$

$$- 0.05548 Q6566$$

$$(2.80)$$

$R^2 = 0.971$ S.E. = 0.026 D.W. = 0.84
 Sample Period 1960-1973

(X.16a) XIPA Branch Output Index: Paper and Pulp

$$\ln XIPA = 0.34776 + 0.56182 \ln NMIPA + 0.11573 \ln KIFP$$

$$(1.15) \qquad (7.98) \qquad \qquad (1.50)$$

$$(4.346)$$

$$- 0.03722 Q6364 + 0.04098 QT50$$

$$(4.64) \qquad \qquad \qquad (8.87)$$

$R^2 = 0.9995$ S.E. = 0.008 D.W. = 2.03
 Sample Period 1960-1973

(X.17a) XISG Branch Output Index: Soft Goods

$$\begin{aligned}
 \ln XISG = & - 4.83933 + 0.19830 \ln KISG \\
 & (1.82) \quad (3.66) \\
 (4.334) & \\
 & + 0.92222 \ln NMISG \\
 & (2.94) \\
 & + 0.27061 \ln XAT_{-1} - 0.08130 Q6567 \\
 & (2.56) \quad (6.85)
 \end{aligned}$$

$R^2 = 0.995$ S.E. = 0.019 D.W. = 1.82
Sample Period 1958-1973

(X.18a) XIPF Branch Output Index: Processed Foods

$$\begin{aligned}
 \ln XIPF = & - 0.82716 + 0.41096 \ln KIPF \\
 & (0.59) \quad (6.85) \\
 (4.351) & \\
 & + 0.41980 \ln NMIPF \\
 & (2.29) \\
 & + 0.21101 \ln XAT_{-1} \\
 & (2.10)
 \end{aligned}$$

$R^2 = 0.996$ S.E. = 0.019 D.W. = 2.12
Sample Period 1958-1973

(X.19) XGR Grain Index, M. Metric Tons (Diamond Series)(a) Link to Gross Agricultural Output (ALT (7) =0)

$$\ln XGR = 1.11803 \ln XAT + 0.08254 \text{ JPS9} \\ (4.550) \quad (323.90) \quad (2.47)$$

$$+ 0.67223 \text{ J1.W9} - 0.21716 \text{ Q65} \\ (2.44) \quad (3.95)$$

$R^2 = 0.965$ S.E. = 0.051 D.W. = 1.67
Sample Period 1959-1973 Fit $R^2 = 0.966$

1965 is an unusual year in that grain production fell sharply while animal products increased substantially. The net result is a slight increase in XAT for 1965.

(b) Direct Production Function (ALT (7) =1)(i) $\ln XGR \equiv \ln XGRPK + LGRES$

Where

XGRPK is a smoothed "normal" output measure constructed from XGR.

$$(ii) \ln XGRPK = - 0.24857 + 0.53782 \ln KAIR$$

(0.18) (13.10)
(4.629)

$$+ 0.83028 \ln NASK$$

(2.25)

$R^2 = 0.989$ S.E. = 0.020 D.W. = 0.37
Sample Period 1959-1973

$$(iii) LPRES = - 0.07125 + 0.11648 JPS9$$

(4.27) (2.94)
(-0.0790)

$$+ 1.50461 JTW9 - 0.19986 Q65$$

(4.58) (3.06)

$R^2 = 0.820$ S.E. = 0.061 D.W. = 2.72
Sample Period 1959-1973

The fit R^2 for the Direct Production Function is 0.963, slightly inferior to the Link Equation (a). The production function for grain differs slightly from that for gross agricultural output since only social sector employment is used and the dummy variable Q65 replaces the man/acre ratio (which was insignificant for grain).

Alternative Production Functions for Industrial Branches

When $ALTE(8) \neq 0$, the equations (X.7a) - (X.18a) are suppressed and the following equations used. These production functions include indexes of material inputs by branch, variables which may be exogenous ($ALTE(8)=1$) or endogenously determined in the U sector of the Model ($ALTE(8)=2, 3$ or 4).

The equation for chemicals and petrochemicals (X.13b) would not converge when material inputs were determined endogenously with the A Matrix. This was due to the high estimated elasticity with respect to material inputs (0.72) and the large diagonal coefficient in the A Matrix for that branch (0.30). Consequently, in the current version of SOVMOD II equation (X.13b) has been suppressed and equation (X.13a) is used for all determinations of output in the chemicals branch.

(X.7b) XIEP Branch Output Index: Electroenergy

$$\ln XIEP - .5811 \quad (\frac{1.226}{8.875}) \quad \ln NMIEP = 1.89904 + 0.62623 \ln KIEP \quad (17.15) \quad (20.09)$$

$$(\text{3.760})$$

$$+ 0.09585 \quad \ln \frac{UEP \&}{PMAT70} \quad (2.79)$$

$R^2 = 0.999$ S.E. = 0.012 D.W. = 1.54
Sample Period 1960-1972

(X.8b) XICP Branch Output Index: Coal Products

$$\ln XICP - .5435 \quad (\frac{3.579}{5.057}) \quad \ln NMICP = 0.58038 + 0.53764 \ln KICP \quad (3.40) \quad (7.80)$$

$$(\text{1.795})$$

$$+ 0.00931 \quad \ln \frac{UCP \&}{PMAT70} \quad (0.23)$$

$R^2 = 0.986$ S.E. = 0.014 D.W. = 1.00
Sample Period 1960-1972

(X.9b) XIPP Branch Output Index: Petroleum Products

$$\ln XIPP - .6125 \quad (\frac{.667}{10.145}) \quad \ln NMIPP = 3.10026 + 0.45686 \ln (KIPP - KIPPF) \quad (11.08) \quad (4.11)$$

$$(\text{4.071})$$

$$+ 0.18398 \ln KIPPF + 0.03297 \ln \frac{UPP \&}{PMAT70} \quad (8.30) \quad (0.47)$$

$R^2 = 0.998$ S.E. = 0.017 D.W. = 1.39
Sample Period 1960-1972

(X.10b) XIFM Branch Output Index: Ferrous Metallurgy

$$\ln XIFM = 0.16526 + 0.39288 \ln KIFM + 0.44823 \ln NMIFM$$

$$(0.12) \quad (6.00) \quad (2.13)$$

$$(4.340)$$

$$+ 0.11424 \ln \frac{UME}{PMAT70}$$

$$(3.61)$$

$R^2 = 0.998$ S.E. = 0.012 D.W. = 1.70
Sample Period 1959-1972

(X.11b) XINF Branch Output Index: Non-Ferrous Metallurgy

$$\ln XINF = 0.61863 + 0.40584 \ln NMINF$$

$$(0.89) \quad (3.58)$$

$$(4.246)$$

$$+ 0.07409 \ln \frac{UME}{PMAT70}$$

$$(1.65)$$

$$+ 0.06093 QT50$$

$$(11.62)$$

$R^2 = 0.999$ S.E. = 0.011 D.W. = 1.63
Sample Period 1959-1972

(X.12b) XICM Branch Output Index: Construction Materials

$$\ln XICM = 0.4853 \frac{(4.317)}{6.989} \ln NMICM = 1.23330$$

$$(2.076) \quad (8.60)$$

$$+ 0.41264 \ln \frac{KICM+1 + KICM}{2}$$

$$(7.66)$$

$$+ 0.26243 \ln \frac{UCM}{PMAT70}$$

$$(4.14)$$

$R^2 = 0.992$ S.E. = 0.025 D.W. 1.25
Sample Period 1959-1972

(X.13b) XICH Branch Output Index: Chemicals & Petrochemicals

$$\ln XICH - .4068 \quad \begin{pmatrix} 3.053 \\ 8.953 \end{pmatrix} \ln NMICH = 3.25399 + 0.02679 \ln KICHF$$

(3.228) (8.44) (0.10)

This equation was not used + 0.10566 \ln (KICH-KICHF)
 due to problems with convergence. (0.84)
 Equation 13a was used instead.

$$+ 0.72230 \ln \frac{UCH\&}{PMAT70}$$

(2.37)

$R^2 = 0.992$ S.E. = 0.037 D.W. = 0.96
 Sample 1960-1972

(X.14b) XIMB Branch Output Index: Machine-Building & Metal-Working

$$\ln XIMB - 0.4469 \quad \begin{pmatrix} 22.837 \\ 40.575 \end{pmatrix} \ln NMIMB = 1.64252 + 0.13770 \ln (KIMB- KIMBF)$$

(2.022) (1.87) (0.53)

$$+ 0.18610 \ln KIMBF$$

(1.13)

$$+ 0.25559 \ln \frac{UMB\&}{PMAT70}$$

(2.00)

$R^2 = 0.997$ S.E. = 0.015 D.W. = 0.79
 Sample Period 1960-1972

(X.15b) XIFP Branch Output Index: Forest Products

$$\ln XIFP - 0.4370 \quad \begin{pmatrix} 4.843 \\ 7.472 \end{pmatrix} \ln NMIFP = 1.98777 + 0.16838 \ln KIFP$$

(2.242) (13.46) (2.75)

$$+ 0.32318 \ln \frac{UFP\&}{PMAT70}$$

(4.35)

$R^2 = 0.984$ S.E. = 0.018 D.W. = 1.18
 Sample Period 1960-1972

(X.16b) XIPA Branch Output Index

$$\begin{aligned} \ln XIPA = & 1.23570 + 0.40438 \ln NMIPA + 0.47880 \ln KIFP \\ & (2.15) \quad (3.16) \quad (6.12) \\ (4.314) \quad & + 0.31548 \ln UFP\& \quad - 0.04329 Q6364 \\ & (5.30) \quad \underline{PMAT70} \quad (3.51) \end{aligned}$$

$R^2 = 0.999$ S.E. = 0.012 D.W. = 1.97
Sample Period 1960-1972

(X.17b) XISG Branch Output Index: Soft Goods

$$\begin{aligned} \ln XISG = & -0.2813 \quad (1. - \frac{7.273}{27.774}) \ln KISG = -4.67276 -0.07769 Q6567 \\ & (3.958) \quad (2.34) \quad (4.59) \\ & + 0.98962 \ln NMISG + 0.08054 \ln USG\& \\ & (3.45) \quad (0.81) \end{aligned}$$

$R^2 = 0.976$ S.E. = 0.024 D.W. = 1.23
Sample Period 1959-1972

(X.18b) XIPF Branch Output Index: Processed Foods

$$\begin{aligned} \ln XIPF = & -0.92633 + 0.05503 \ln KIPF + 0.42484 \ln NMIPF \\ & (0.94) \quad (0.64) \quad (2.99) \\ (4.358) \quad & + 0.42966 \ln UPF\& \\ & (5.31) \end{aligned}$$

$R^2 = 0.998$ S.E. = 0.012 D.W. = 1.83
Sample Period 1959-1972

U MATERIAL INPUTS

This is an optional sector of SOVMOD II (Alternate (8)=2, 3 or 4), which computes material input indexes in current prices for 16 sectors using the I-O table balanced for the given year; the 16 sectors are listed in table 1 below. The vector of gross outputs X in the macromodel is first transformed into a simulated vector of gross value of outputs in current prices ($XGVO$) based to 1966=100.

$$(U.1-1,16) \quad XGVO_i \equiv RGX9_i * X_i \quad i = 1, 16$$

The exogenous $RGX9$ vector for each year 1959-1972 was computed from actual GVO and X observations. Sectoral GVO is moved by corresponding X variables, with two macro-model outputs being aggregated into one GVO variable for metallurgy and forest products (1970 Value-Added weights were used in the aggregation):

$$\text{Metallurgy} \quad XIFMNF \equiv \frac{8.575 XIFM + 4.193 XINF}{12.768}$$

$$\text{Forest Products} \quad XIFPPA \equiv \frac{7.472 XIFP + 1.254 XIPA}{8.726}$$

The GVO's of Industry NEC and Other Branches are moved by Aggregate Industrial Output and GNP, respectively.

This vector of GVO indexes is then converted to current rubles using levels from the 1966 I-O table:

$$XGVO\&_i \equiv CXG_i * XGVO_i \quad i = 1, 16$$

CXG is a vector of constant coefficients given in Table 1.

This vector $XGVO\&$ is then used to determine material inputs by sector in three alternative ways. First, the B matrix corresponding to the balanced A matrix of the given year may be used directly to form a flow matrix $F\&(Alternate(8)=2)$.

$$(UF-2)^* \quad F\&_{ij} \equiv b_{ij} * XGVO\&_i \quad i = 1,16 \\ j = 1,16$$

In the second alternative (Alternate (8)=3), a flow matrix is formed by multiplying each column of the A matrix by the corresponding element in $XGVO\&$:

$$(U.1-17) \quad XGVO\&_{17} \equiv XVAT\& \equiv RGXVA9*GNP \\ F\&_{ij}' \equiv a_{ij} * XGVO\&_j \quad i = 1,16 \\ j = 1,17$$

In this case, the row sum of materials requirements (including final demand) will not generally equal gross output. A distribution matrix B (16,17) is then used to distribute those excess demands to obtain a new flow matrix:

$$(UF-3)^* \quad F\&_{ij} \equiv F\&_{ij}' + \bar{b}_{ij} * (XGVO\&_i - \sum_{j=1}^{17} F\&_{ij}')$$

$$i = 1,16 \\ j = 1,17$$

Although we have used the 1966 B matrix for \bar{B} , the model may be programmed to apply any specific distribution matrix \bar{B} .

In the third alternative which determines materials inputs endogenously (Alternate(8)=4), the procedure is identical to the second until the final distribution of excess demands. Here, the distribution scheme is a minimization of weighted A coefficient changes using a matrix \bar{B} of weights:

$$(UF-4) * \quad F'_{ij} \equiv F'_{ij} * (1. + D_{ij}) \quad i = 1, 16 \\ j = 1, 17 \\ \text{where } D_{ij} \equiv \bar{b}_{ij} \frac{F'_{ij}}{R_i} (XGVO_{ij} - \sum_{j=1}^{17} F'_{ij}) \\ R_i \equiv \sum_{j=1}^{17} b_{ij} (F'_{ij})^2$$

Again, we have used the 1966 B matrix as weights for the minimization but the algorithm could be used with other weighting matrices.

When the A matrix is used (Alternate(8)=3 or 4), it is adjusted each iteration as coefficients change. Iterations cease not when the matrix converges but when model outputs and material inputs converge.

Material inputs delivered to each sector are computed by aggregating over each column:

$$UF_j \equiv \sum_{i=1}^{16} F_{ij} \quad j = 1, 16$$

Finally, this vector of material inputs in current rubles is converted to a vector of material input index values based to 1970=100.

$$(U.2-1,16) \quad U_i \equiv UF_j / CUF_j \quad j = 1, 16$$

CUF is a vector of constant coefficients based on the 1970 material inputs computed from actual GVO's and the balanced I-O matrix for 1970 and is given in Table 1.

* Starred equations are for reference only and are not counted as model equations.

TABLE 1.

NO.	SECTOR	CXG B. 1966 R. * 10. ⁻²	CUF B. 1970 R. * 10. ⁻²
1.	FMNF	Metallurgy	0.21324581
2.	CP	Coal Products	0.05413076
3.	PP	Petroleum and Gas	0.05663796
4.	EP	Electric Power	0.05895195
5.	MB	Machine-Building & Metal-Working	0.54508163
6.	CH	Chemicals & Petrochemicals	0.14197281
7.	FPPA	Forest Products & Paper	0.12623556
8.	CM	Construction Materials	0.10689850
9.	SG	Soft Goods	0.44730625
10.	PF	Processed Foods	0.60772925
11.	NC	Industry NEC	0.10324238
12.	CG	Construction	0.43312381
13.	AF	Agriculture & Forestry	0.80061444
14.	TC	Transport & Communications	0.19000031
15.	TD	Domestic Trade	0.16150025
16.	OB	Other Branches of Material Production	0.02928288

WHARTON ECONOMETRIC FORECASTING ASSOCIATES INC.

WHARTON
EEA

W WAGES(W.1) WI& Average Wage, Industry

$$DVWI - DVWI_{-1} = 0.39342 (28.1927 - DVWI_{-1}) - 0.48571 \\ (-0.127)$$

$$+ 1.77880 QWREF + 1.56531 Q61 \\ (5.91) \quad (4.55)$$

$R^2 = 0.883$ S.E. = 0.326 D.W. = 1.53
Sample Period 1959-1972

Where

$$DVWI = \frac{10. WI\&/PRC_{-1}}{1766.28 XITOT/NMI} \quad \frac{\text{(real wage)}}{\text{(average product)}}$$

(W.2) WASK& Average Wage, State and Collective Farms

$$DVWA - DVWA_{-1} = 1.27835 (DHWA - DVWA_{-1}) - 0.74025 \\ (1.96) \quad (i.05)$$

$R^2 = 0.731$ S.E. = 1.94 D.W. = 1.95
Sample Period 1959-1972

Where

$$DVWA = \frac{10. WASK\&/PRC_{-1}}{(XAT/NAT)_{-1}} \quad \frac{\text{(real wage)}}{\text{(average product) }_{-1}}$$

(W.2) WASK& Average Wage, State and Collective Farms, Continued .

DHWA = 2.78935 QT50 (1.-QSH68) + 54.50375 QSH68

(DVWA Fitted over 1959-1972)

(W.3) WC& Average Wage, Construction

$$\frac{WC\&}{WI\&} = 0.34269 QLT28 - 0.18268$$

(13.08) (1.91)
(1.0659)

$$R^2 = 0.924 \quad S.E. = 0.013 \quad D.W. = 1.62$$

Sample Period 1958-1973

(W.4) WTC& Average Wage, Transport and Communications

$$\frac{WTC\&}{WI\&} = 0.98313 \left(\frac{WTC\&}{WI\& -1} \right) + 0.02098 + 0.03188 Q61$$

(11.72) (0.26) (3.21)
(0.922)

$$R^2 = 0.922 \quad S.E. = 0.009 \quad D.W. = 2.15$$

Sample Period 1959-1973 \quad D. = 0.31

(W.5) WS& Average Wage, Trade and Distribution

$$\frac{WS\&}{WGS\&} = 0.98957 \frac{(WS\&)}{(250.02)} - 0.07728 \frac{Q65}{(7.32)} - 0.01628 \frac{Q61}{(1.54)} \\ (0.708)$$

 $R^2 = 0.907$ S.E. = 0.010 D.W. = 1.63
Sample Period 1959-1973 D. = 0.72(W.6) WGS& Average Wage, Government and Services

$$\frac{WGS\&}{WI\&} = 1.00336 \frac{(WGS\&)}{(465.40)} - 0.02584 \frac{Q6162}{(4.51)} \\ (0.978)$$

 $R^2 = 0.934$ S.E. = 0.008 D.W. = 1.77
Sample Period 1959-1973 D. = 0.46

Z INCOMES(Z.1) ZWU& Urban Workers Gross Earnings

$$ZWU& = 0.97565 ZWH& + 11.47676 (1. - QSH65) \\ (85.871) \quad (352.30) \quad (8.23)$$

$$- 0.59859 QT50 * (1. - QSH65) \\ (8.02)$$

$$R^2 = 1.000 \quad S.E. = 0.457 \quad D.W. = 0.83 \\ \text{Sample Period 1958-1972}$$

$$\text{Where } ZWH& \equiv (NMI * WI& + NMC * WC& + NMTC * WTC& \\ + NMS * WS& + NMG * WGS&)/10.^6$$

(Z.2) ZPWSC& State and Collective Farm Wage Payments

$$ZPWSC& \equiv NASK * WASK&/10.^3$$

(Z.3) ZPWS& Income from Sale of Farm Products

$$\ln ZPWS& = - 3.44986 + 0.64368 (\ln PAFC70 + \ln XAT) \\ (2.032) \quad (6.90) \quad (10.94)$$

$$- 1.53755 (\frac{XAT}{XATPK} - 1) - 0.21259 Q69 \\ (4.69) \quad (3.39)$$

$$R^2 = .919 \quad S.E. = 0.056 \quad D.W. = 1.42 \\ \text{Sample Period 1958-1972}$$

(Z.4) ZP& Total Money Income

$$ZP& \equiv ZWU& + ZPWSC& + ZPWS& + ZWPC&9 + ZPPC&9 \\ + ZPWM&9 + BPS&$$

(Z.5) ZPAK& Agricultural Income in Kind

$$\ln ZPAK& = - 1.94988 + 1.10702 \ln XAT \\ (2.533) \quad \quad \quad (4.83) \quad \quad \quad (11.12)$$

$R^2 = .905$ S.E. = 0.055 D.W. = 1.44
Sample Period 1958-1972

(Z.6) ZD Real Disposal Income

$$ZD \equiv 100. (ZP& + ZPAK& - TP&)/PRC$$

(Z.7) Gross Profits, National Economy(a) Without Anticipation Term

$$ZPG&/ZPG&_{-1} = 1.09277 + 0.12996 Q6668 + 0.10389 Q70 \\ (1.114) \quad \quad \quad (63.95) \quad \quad \quad (4.25) \quad \quad \quad (2.20)$$

$$+ 0.39267 \left(\frac{XAT}{XATPK} - 1. \right) \\ (1.50)$$

$R^2 = 0.745$ S.E. = 0.044 D.W. = 2.19
Sample Period 1959-1973

(Z.7) Gross Profits, National Economy, Continued

(b) With Anticipation Term

$$\begin{aligned}
 ZPG\&/ZPG\&_{-1} &= 1.08931 + 0.14061 Q6668 + 0.11883 Q70 \\
 &\quad (62.16) \quad (4.31) \quad (2.38) \\
 &+ 0.38681 \left(\frac{XAT}{XATPK} - 1. \right) \\
 &\quad (1.47) \\
 &+ 0.18028 \left(\frac{ZPG\&9}{ZPG\&_{-1}} - 1.127 \right) \\
 &\quad (0.96)
 \end{aligned}$$

$R^2 = 0.766$ S.E. = 0.044 D.W. = 2.24
Sample Period 1959-1973

(c) With Residual Income Term

$$\begin{aligned}
 ZPG\&/ZPG\&_{-1} &= 1.06260 ZR\&/ZR\&_{-1} - 0.42123 Q70 \\
 &\quad (93.26) \quad (9.91) \\
 &- 0.25520 (QSH67 - QSH67_{-1}) \\
 &\quad (4.27)
 \end{aligned}$$

$R^2 = 0.790$ S.E. = 0.039 D.W. = 1.42
Sample Period 1959-1972

(Z.8) ZDT& Amortization Funds, National Economy

$$\begin{aligned}
 ZDT\&/ZDT\&_{-1} &= 1.02532 + 0.07104 KSUM/KSUM_{-1} \\
 &\quad (44.60) \quad (3.63) \\
 &+ 0.27301 Q63 + 0.03168 (QSH67 - QSH67_{-1}) \\
 &\quad (24.24) \quad (1.88)
 \end{aligned}$$

$R^2 = 0.984$ S.E. = 0.011 D.W. = 1.45
Sample Period 1959-1972

(Z.9) ZR& Income Residual

ZR& \equiv PII * (GNP - ZD)/100. - TT& - ZDT&

P Prices(P.1) PNF70 State Retail Price, Non-Food Goods

$$\frac{\text{PNF70}}{1+RTTD9} - \left(\frac{\text{PNF70}}{1+RTTD9-1} \right) = -0.29527 + 2.10261 Q6668 \\ (0.260) \quad \quad \quad (1.66) \quad \quad \quad (4.52)$$

$$+ 0.11012 \left(\frac{\text{PNF70}}{1+RTTD9-1} - \frac{\text{PWIQN}}{1+RTTD9-1} \right)$$

$R^2 = 0.837$ S.E. = 0.519 D.W. = 1.70
Sample Period 1961-1972

Where

PWIQN ≡ K. WIQN (marked-up industrial wage)

$$\text{WIQN} \equiv \frac{100 \cdot \text{WI\&}}{1766.28 \text{ XITOT} / (.001 \text{ NMI})}$$

$$K = -0.41978 + 1.15080 QLT28 - 0.19918 QSH68 \\ \text{Estimated over sample period 1958-1972}$$

(P.2) PIRF70 State Retail Price, Food Goods

$$\frac{\text{PIRF70}}{1+RTTD9} - \left(\frac{\text{PIRF70}}{1+RTTD9-1} \right) = 0.64672 + 1.77265 Q6668 \\ (1.049) \quad \quad \quad (2.20) \quad \quad \quad (3.00)$$

(P.2) PIRF70 State Retail Price, Food Goods, Continued

$$+ 0.21488 (.85 \text{ PWIQN} + .15 \text{ PAFC70-1} \\ (1.69) - \left(\frac{\text{PIRF70}}{1+\text{RTTD9-1}} \right))$$

$R^2 = 0.551$ S.E. = 0.882 D.W. = 2.05
Sample Period 1961-1972

(P.3) PAFC70 "Negotiated" Agricultural Price

(Food sold by collective farms to consumer cooperatives.)

$$\ln \text{PAFC70} - \ln \text{PAFC70-1} = 0.03485 + 0.04370 \text{ Q6869} \\ (0.034) \quad (2.01) \quad (1.53) \\ - 0.02045 \frac{\text{MGRDW\$}}{\text{PGR9}} - 0.97120 \left(\frac{\text{XAT-1}}{\text{XATPK-1}} - 1. \right) \\ (3.35) \quad (4.62) \\ - 0.65908 (1. - \text{QSH65}) \left(\frac{\text{XAT}}{\text{XATPK}} - 1. \right) \\ (2.11)$$

$R^2 = 0.791$ S.E. = 0.032 D.W. = 3.01
Sample Period 1961-1973

(P.4) PFCC Consumption Price, Food

$$\text{PFCC} \equiv .875 \text{ PIRF70} + .125 \text{ PAFC70}$$

(P.5) PRC Consumption Price, Total

$$\text{PRC} \equiv .60 \text{ PFCC} + .40 \text{ PNF70}$$

(P.6) PIWL70 Wholesale Price, Light Industry

$$\begin{aligned}
 \text{PIWL70} - \text{PIWL70}_{-1} = & - 0.25850 - 1.86950 \text{ Q67} + 0.75035 \text{ Q61} \\
 & (-0.056) \quad (0.98) \quad (2.30) \quad (0.93) \\
 & + 0.10072 \quad (\text{PWIQN} - \text{PIWL70}_{-1}) \\
 & \quad (1.70)
 \end{aligned}$$

$R^2 = .438$ S.E. = 0.775 D.W. = 2.11
Sample Period 1958-1972

(P.7) PIWH70 Wholesale Price, Heavy Industry

$$\begin{aligned}
 \text{PIWH70} - \text{PIWH70}_{-1} = & - 0.45455 - 4.09088 \text{ Q61} \\
 & (1.41) \quad (3.81) \\
 & + 14.09091 \text{ Q67} \\
 & \quad (13.14)
 \end{aligned}$$

$R^2 = .957$ S.E. = 1.023 D.W. = 1.77
Sample Period 1961-1972

(P.8) PII Investment Deflator, Industry

$$\text{PII} = 0.81500 \text{ PXCONS} + 0.20588 \text{ PIWH70} \\
 (87.9) \quad (13.42) \quad (3.73)$$

$R^2 = .934$ S.E. = 1.62 D.W. = 0.36
Sample Period 1957-1972

(P.9) PIC Investment Deflator, Construction

$$\text{PIC} = 0.32125 \text{ PXCON9} + 0.68619 \text{ PIWH70}$$

$$(91.1) \quad (2.40)$$

$$R^2 = .727 \quad \text{S.E.} = 3.56 \quad \text{D.W.} = 2.13$$

Sample Period 1957-1972

(P.10) PIT Investment Deflator, Transport and Communications

$$\text{PIT} = 0.67878 \text{ PXCON9} + 0.32086 \text{ PIWH70}$$

$$(87.0) \quad (4.10)$$

$$R^2 = .699 \quad \text{S.E.} = 4.40 \quad \text{D.W.} = 0.34$$

Sample Period 1957-1972

(P.11) PIS Investment Deflator, Government, Trade, Services, etc. (excl. Housing)

$$\text{PIS} = 0.78015 \text{ PXCON9} + 0.24469 \text{ PIWH70}$$

$$(88.6) \quad (11.04)$$

$$R^2 = .899 \quad \text{S.E.} = 1.88 \quad \text{D.W.} = 0.36$$

Sample Period 1957-1972

(P.12) PIHS Investment Deflator, Housing
$$\begin{aligned} \text{PIHS} &= 0.82329 \text{ PXCON9} + 0.19220 \text{ PIWH70} \\ &\quad (5.08) \\ &\quad (87.3) (19.76) \end{aligned}$$
$$\begin{aligned} R^2 &= .971 \quad \text{S.E.} = 1.11 \quad \text{D.W.} = 0.53 \\ \text{Sample Period} &1957-1972 \end{aligned}$$
(P.13) PIA Investment Deflator, Agriculture
$$\begin{aligned} \text{PIA} &= 0.34481 \text{ PXCON9} + 0.06897 \text{ PIWH70} + 58.03934 \\ &\quad (3.00) \quad (30.86) \\ &\quad (93.5) (22.19) \end{aligned}$$
$$\begin{aligned} R^2 &= .983 \quad \text{S.E.} = 0.410 \quad \text{D.W.} = 1.16 \\ \text{Sample Period} &1957-1972 \end{aligned}$$

C Consumption(C.1) CR Total Consumption(C.1a) Identity Determination

$$CR \equiv CRF + CRND + CRD + CRS$$

(C.1b) Direct Determination

$$\frac{CR}{ZD} = 1.82930 - 0.34160 QLT28 + 0.27182 \frac{XAT-1}{ZD} \\ (3.04) \quad (2.66) \quad (1.37)$$

$$+ 1.36466 \left(\frac{.27744 XISG + .38796 XIPF}{ZD} \right) \\ (3.82)$$

$R^2 = 0.977$ S.E. = 0.017 D.W. = 1.97
Sample Period 1956-1972

(C.1c) Residual Determination

$$CR \equiv GNP + \frac{MTW70}{1000} - \frac{ETW70}{1000} - GRESEM - I70T$$

$$- I70NTA - ITOTAL - .17391 GIKREP$$

$$- \{ BAD\& + \frac{6.954}{49.5} (BSC\& - BNAUK\&) \} / (.65 \frac{WG\&}{1246.8} \\ + .35 \frac{PIWH70}{100})$$

(C.1c) Residual Determination, Continued

$$- (BD\&9 - BDN\&9) - \frac{100 BDN\&9}{PIWH70}$$

$$- BNAUK\& / (.2 \frac{WG\&}{1246.8} + .8 \frac{PIWH70}{100})$$

(C.2) CRF Food Consumption

(C.2a) Direct Determination

$$\frac{CRF}{ZD} = 1.67893 - 0.34206 \frac{ZD}{ZD-1} - 0.98667 \frac{PFCC}{PNF70} \\ (5.47) \quad (2.80) \quad (4.21)$$

$$+ 0.24844 \frac{XAT}{ZD} + 0.62497 \frac{0.38796XIPF}{ZD} \\ (1.67) \quad (1.87)$$

$R^2 = 0.981$ S.E. = 0.013 D.W. = 1.94
Sample Period 1956-1972

(C.2b) Share Determination

$$\frac{CRF}{CR} = 0.50614 \left(\frac{CRF}{CR} \right)_{-1} + 0.90761 \left(\frac{CRND}{CR} \right)_{-1} \\ (0.511) \quad (2.89) \quad (4.51)$$

$$- 0.81116 \left(\frac{CRD}{CR} \right)_{-1} + 1.25255 \left(\frac{CRS}{CR} \right)_{-1} \\ (1.04) \quad (4.96)$$

$$- 0.19716 \frac{PFCC}{PNF70} + 0.03253 \frac{(XISG_{-1})}{XISG_{-1}} \\ (1.98) \quad (0.74)$$

$$+ 0.10526 \frac{100BDN\&9/PIWH70}{ZD} \\ (0.92)$$

(C.2b) Share Determination, Continued

$$+ 0.05603 \left(\frac{INA}{INA_{-1}} - 1 \right)$$

(1.53)

$R^2 = 0.991$ S.E. = 0.003 D.W. = 2.30
 Sample Period 1957-1972 D. = 0.84

(C.3) CRND Softgoods(C.3a) Direct Determination

$$\frac{CRND}{ZD} = 0.32920 + 0.26531 \frac{QT50}{100} - 0.29562 \frac{PFCC}{PNF70}$$

(0.276) (4.32) (2.81) (3.43)

$$+ 1.15378 \frac{0.27744 XISG}{ZD}$$

(8.94)

$R^2 = 0.978$ S.E. = 0.003 D.W. = 1.53
 Sample Period 1956-1972

(C.3b) Share Determination

$$\frac{CRND}{CR} = 0.26163 \left(\frac{CRF}{CR} \right)_{-1} + 0.61716 \left(\frac{CRND}{CR} \right)_{-1} + 0.72767 \left(\frac{CRD}{CR} \right)_{-1}$$

(2.11) (4.33) (1.32)

$$- 0.37389 \left(\frac{CRS}{CR} \right)_{-1}$$

(2.09)

(C.3b) Share Determination, Continued

$$+ 0.00548 \frac{PFCC}{PNF70} + 0.00453 \left(\frac{XISG}{XISG_{-1}} - 1 \right)$$

$$- 0.18249 \frac{100.BDN\&9/PIWH70}{ZD}$$

$$- 0.00659 \left(\frac{INA}{INA_{-1}} - 1 \right)$$

$R^2 = 0.936$ S.E. = 0.002 D.W. = 1.96
Sample Period 1957-1972 D.W. = 0.10

(C.4) CRD Durables(C.4a) Direct Determination

$$\frac{\text{CRD}}{\text{ZD}} = -1.42926 - 1.02849 \frac{\text{QT50}}{100} + 0.45360 \frac{\text{QLT28}}{(6.97) (5.90) (6.93)}$$

$$+ 0.11033 \frac{0.40575}{\text{ZD}} \frac{\text{XIMB}}{(1.92)} - 0.11888 \frac{100 \cdot \text{BDN\&9/PIWH70}}{\text{ZD}} \frac{}{(2.20)}$$

$R^2 = 0.990$ S.E. = 0.001 D.W. = 1.65
Sample Period 1957-1972

(C.4b) Share Determination

$$\frac{\text{CRD}}{\text{CR}} = 0.018201 \frac{(\text{CRF})}{\text{CR}} - 1 - 0.150996 \frac{(\text{CRND})}{\text{CR}} - 1 + 0.760549 \frac{(\text{CRD})}{\text{CR}} - 1$$

$$- 0.110318 \frac{(\text{CRS})}{\text{CR}} - 1$$

$$+ 0.069496 \frac{\text{PFCC}}{\text{PNF70}} - 0.007663 \frac{\text{XISG}}{\text{XISG-1}} - 1$$

$$- 0.030335 \frac{100 \cdot \text{BDN\&9/PIWH70}}{\text{ZD}}$$

$$- 0.017899 \frac{(\text{INA})}{\text{INA-1}} - 1$$

(C.4b) Share Determination, Continued

$R^2 = 0.996$ S.E. = 0.001 D.W. = 1.95
 Sample Period 1957-1972 D. = *

(C.5) CRS Services

(C.5a) Direct Determination

$$\frac{CRS}{ZD} = -1.20889 - 1.02855 \frac{QT50}{100} + 0.40920 \frac{QLT28}{(4.47)} \\ + 0.55668 \frac{.43808 \frac{XSER}{ZD}}{(7.41)}$$

$R^2 = 0.962$ S.E. = 0.003 D.W. = 1.84
 Sample Period 1956-1972

(C.5b) Share Determination

$$\frac{CRS}{CR} = 0.21404 \frac{(\frac{CRF}{CR})_1}{(2.57)} - 0.37376 \frac{(\frac{CRND}{CR})_1}{(3.90)} + 0.32307 \frac{(\frac{CRD}{CR})_1}{(0.87)} \\ + 0.23163 \frac{(\frac{CRS}{CR})_1}{(1.93)}$$

(C.5b) Share Determination, Continued

$$+ 0.12218 \frac{\text{PFCC}}{\text{PNF70}} - 0.04473 \frac{\text{XISG}}{\text{XISG}_{-1}} - 1.0$$

$$+ 0.10758 \frac{100 \cdot \text{BDN\&9/PIWH70}}{\text{ZD}}$$

$$- 0.03154 \frac{\text{INA}}{\text{INA}_{-1}} - 1.0$$

$R^2 = 0.986$ S.E. = 0.001 D.W. = 2.73
Sample Period 1957-1972 D.W. = 1.66

T BUDGET REVENUES

$DDF \equiv \frac{BD\&9}{BGN\&} - 0.132$ Defense Share, Deviation from Mean

$DPRC \equiv \frac{PRC}{PRC-1} - 1.$ Consumption Price Deflator, Rate of Change

$ZW\& \equiv ZWU\& + ZPWSC\& + ZPWC\&9$ Total Money Wage Income

(T.1) TDP& Deductions from Gross Profits

$\frac{TDP\&}{ZPG\&} = 1.02793 \frac{RTDP9}{(69.84)} + 1.60270 \frac{DDF}{(2.49)} - 0.10077 \frac{Q68}{(2.46)}$

$R^2 = 0.780$ S.E. = 0.039 D.W. = 1.30
Sample Period 1958-1972

(T.2) TT& Turnover Tax

$\frac{TT\&}{ZW\&} = 0.69335 (1. - QSH68) + 0.31965 \frac{QSH68}{(66.08)}$
(0.400)

- 0.01895 (1. - QSH68) * QT50 + 0.95172 $DPRC_{-1}$
(19.33) (4.25)

(T.2) TT& Turnover Tax, Continued

- 082918 DDF
{4.28}

$R^2 = 0.989$ S.E. = 0.008 D.W. = 2.10
Sample Period 1958-1972

(T. 3) TOSS& Other Revenues from Social Sector (including Social Insurance Deductions)

$$\frac{\text{TOSS\&}}{\text{ZPG\&}} = 0.47409 + 0.20879 \text{ Q6165} + 0.36882 \text{ Q5860} \\ (42.51) \quad (12.08) \quad (18.11) \\ (0.618)$$

$R^2 = 0.968$ S.E. = 0.030 D.W. = 2.96
Sample Period 1958-1972

(T.4) TSD& Social Insurance Deductions

$$\frac{TSD\&}{ZW\&} = 0.05720 + 0.00246 Q59$$

$$(311.48) \quad (3.45)$$

$$(0.057)$$

$R^2 = 0.480$ S.E. = 0.001 D.W. = 1.25
Sample Period 1958-1972

(T.5) TPOP& Taxes on the Population

$$\frac{TPOP\&}{ZWU\&} = 0.09193 + 0.02018 Q5859 - 0.01174 Q6467$$

$$(85.03) \quad (7.96) \quad (6.02)$$

$$(0.092)$$

$R^2 = 0.915$ S.E. = 0.003 D.W. = 1.52
Sample Period 1958-1972

(T.6) TP& Personal Taxes (for Disposable Income)

$$TP\& \equiv TPOP\& + TPA\&9$$

(T.7) TR& Total Revenues, State Budget

$$TR\& \equiv TDP\& + TT\& + TOSS\& + TPOP\&$$

B State Budget Outlays

$$DDF \equiv \frac{BD\&9}{BGN\&} - 0.132 \quad \text{Defense Share, Deviation from Mean}$$

$$DWG \equiv \frac{WGS\&}{WGS\&_{-1}} - 1.03536 \quad \text{Rate of Change of Government Wage, Deviation from Mean}$$

Q6768 Industrial Price Reform Dummy

Q65 Governmental Financial Reorganization

(B.1) BF& Financing of the National Economy

$$\frac{BF\&}{BF\&_{-1}} = 1.07119 - 0.11518 Q61 + 0.06875 Q6768 + 0.12432 Q70$$

$$(107.82) \quad (3.35) \quad (2.71) \quad (3.61)$$

$$(1.081)$$

 $R^2 = 0.755$ S.E. = 0.033 D.W. = 2.91
 Sample Period 1959-1973
(B.2) BSC& Social and Cultural Measures (including Science)

$$\frac{BSC\&}{BSC\&_{-1}} = 1.07203 + 0.07511 Q65 + 0.0381 Q68$$

$$(439.73) \quad (8.23) \quad (4.20)$$

$$(1.080)$$

 $R^2 = 0.871$ S.E. = 0.009 D.W. = 1.74
 Sample Period 1959-1973

(B.3) BNAUK& Science

$$\frac{\text{BNAUK\&}}{\text{BNAUK\&-1}} = 1.25618 - 0.008904 \text{ QT50}$$

$$(63.24) \quad (7.86)$$

$$(1.105)$$

$R^2 = 0.826$ S.E. = 0.019 D.W. = 2.44
Sample Period 1959-1973

(B.4) BAD& Administration

$$\frac{\text{BAD\&}}{\text{BAD\&-1}} = 1.01199 + 0.16510 \text{ Q65} + 0.05381 \text{ Q6768}$$

$$(85.58) \quad (3.91) \quad (1.74)$$

$$(1.033)$$

- 0.78529 DDF
(1.31)

$R^2 = 0.638$ S.E. = 0.041 D.W. = 1.71
Sample Period 1959-1973

(B.5) BRES& Expenditure Residual

$$\frac{\text{BRES\&}}{\text{BGN\&}} = 0.08371 - 0.002605 \text{ QT50} - 0.01610 \text{ Q63}$$

$$(13.49) \quad (6.72) \quad (3.47)$$

$$(0.038)$$

- 0.01115 Q6768 + 0.005766 DWG ~ 0.20697 DDF
(3.86) \quad (1.41) \quad (1.96)

(B.5) BRES& Expenditure Residual, Continued $R^2 = 0.932$ S.E. = .004 D.W. = 2.68
Sample Period 1958-1973(B.6) BGN& Total ExpendituresBGN& \equiv BF& + BSC& + BAD& + BRES& + BD&9(B.7) BPS& Transfer Payments (for Disposable Income)

$$\frac{BPS\&}{BSC\&-BNAUK\&} = 0.49375 + 0.01005 Q5861 - 0.02438 Q6368$$
$$(129.34) \quad (1.75) \quad (4.72)$$
$$(0.487)$$

 $R^2 = 0.787$ S.E. = 0.009 D.W. = 2.32
Sample Period 1958-1972

E Exports

(E.1) ERMCM& Export of Raw Materials and Semifabricates to CMEA

$$\begin{aligned}
 100 \frac{\text{ERMCM&}}{\text{PERMCM9}} &= -937.22 + 30.983 \text{ YCMEA9} \\
 (3098) & \\
 &- 13.364 \quad \{ 100 \left(\frac{\text{PRMW9}}{\text{PTW9}} - \frac{\text{PRMW9-1}}{\text{PTW9-1}} \right) \\
 &- (\text{PERMCM9-PERMCM9-1}) \}
 \end{aligned}$$

$R^2 = 0.964$ S.E. = 195 D.W. = 1.23
Sample Period 1961-1973

(E.2) EMACM& Exports of Machinery, to CMEA

$$\text{EMACM&} = -712.392 + 0.658452 \quad \text{ERMCM&} = 125.552 \quad \text{Q4590} \\
 (2674) \quad (10.65) \quad (26.57)$$

$R^2 = 0.985$ S.E. = 66 D.W. = 1.51
Sample Period 1960-1973

(E.3) EGRCM& Exports of Grain, to CMEA

$$\begin{aligned}
 \frac{\text{EGRCM&}}{\text{NPOP9}} &= 2.106403 + 2.45125 * \left(\frac{\text{XGR}}{\text{NPOP9}} - \frac{\text{XGRCM9}}{\text{NCM9}} \right) \\
 &\quad (1.09) \\
 &\quad + 3.3278 \left(\frac{\text{XGR}_1}{\text{NPOP9-1}} - \frac{\text{XGRCM9-1}}{\text{NCM9-1}} \right) \\
 &\quad + 2.23734 \frac{\text{GRSTK}}{\text{NPOP9}}
 \end{aligned}$$

$R^2 = 0.808$ S.E. = 0.14 D.W. = 2.29
Sample Period 1960-1972

Where $\text{GRSTK} \equiv \sum_{I=1}^3 (\text{XGR}_{-I} - \text{XGRPK}_{-I})$

(E.4) ECOCM& Exports of Consumption Goods; other than Grain

$$\text{ECOCM&} = 178.607 + 7.49858 \text{ XAT-1} - 6.39453 \text{ XGRCM9} \\
 (2.42) \quad (2.10) \quad (1.80)$$

$R^2 = 0.315$ S.E. = 37 D.W. = 0.91
Sample Period 1960-1973

(E.5) ETCM& Total Exports to CMEA

$$ETCM& \equiv ERMCM& + EMACM& + EGRCM& + ECOCM& + EUSCM&^9$$

(E.6) ENETCM& Balance of Trade with CMEA

$$ENETCM& \equiv ETCM& - MTM&$$

(E.7) ENFDW\$ Non-food Exports to the Developed West

$$\frac{ENFDW\$}{ENFDW\$}_{-1} = -0.07584 + .27125 \left(\frac{MTDW\$ - ENETDW\$_{-1}}{MTDW\$_{-1}} - 1 \right) + 1.27199 \left(\frac{WTDW9}{WTDW9_{-1}} \cdot \frac{PENFDW9}{PENFDW9_{-1}} - 1 \right)$$

$R^2 = .820$ S.E. = 0.083 D.W. = 1.34
 Sample Period 1961 - 1973

Revised 11/11/75

(E.8) EGRDW\$ Grain Exports to the DW

$$\frac{100 \text{ EGRDW\$}}{\text{PGR9} \text{ NPOP9} \text{ (0.217)}} = 1.73703 - 3.88386 \frac{\text{XGRWE9}}{\text{NWE9}} + 2.06302 \frac{\text{GRSTK}}{\text{NPOP9}}$$

$R^2 = 0.786$ S.E. = 0.091 D.W. = 1.98
Sample Period 1960-1972

Where GRSTK is defined below (E.3)

(E.9) EFODW\$ Export of Food other than Grain to the DW

$$\text{EFODW\$} = -125.30 + 3.5929 \text{ XAT -1} \quad (131) \quad (3.19) \quad (5.37)$$

$R^2 = 0.724$ S.E. = 20 D.W. = 1.02
Sample Period 1960-1972

(E.10) ETDW\$ Total exports to the Developed West

$$ETDW\$ = ENFDW\$ + EGRDW\$ + EFODW\$$$

(E.11) ENETGR Net Balance of Grain Trade

$$ENETGR = 1.1111 EGRCM\$ + \frac{100.}{PGR9} (EGRDW\$ + EGRLDC\$ - MGRDW\$)$$

Revised 11/11/75 Now an identity

(E.12) ENETDW\$ Balance of Trade with the DW

$$ENETDW\$ = ETDW\$ - MTDW\$$$

(E.13) ETLDC\$ Total Exports to the Less Developed Countries
(including grain EGRLDC\$)

$$\begin{aligned}
 ETLDC\$ &= -137.69 + 0.213556 * WTLDC9 \\
 &\quad (1.54) \quad (3.63) \\
 &\quad (1035) \\
 &+ 0.339775 * ETLDC\$_{-1} \\
 &\quad (1.51)
 \end{aligned}$$

$R^2 = 0.954$ S.E. = 93 D.W. = 2.07
 Sample Period 1961-1973 D. = 0.22

(E.14) EGRLDC\$ Exports of Grain to the LDC's

$$\begin{aligned}
 \frac{EGRLDC\$ * 100}{NPOP9 * PGR9} &= 2.47943 + 1.42838 * \frac{GRSTK}{NPOP9} \\
 &\quad (2.09) \quad (2.42) \\
 &\quad (0.33) \\
 &- 9.95524 * \frac{XGRLDC9_{-1}}{NLDC9_{-1}}
 \end{aligned}$$

$R^2 = 0.404$ S.E. = 0.12 D.W. = 1.57
 Sample Period 1960-1972

where GRSTK see at Equ. (E.3)

(E.15) EOSC\$ Exports to Yugoslavia and the Far Eastern Socialite Countries (except China and Cuba)

$$\begin{aligned}
 EOSC\$ &= -174.24 + 4.26099 * WT9 + 0.38366 * EOSC\$_{-1} \\
 &\quad (2.94) \quad (2.69) \quad (1.44) \\
 &\quad (690)
 \end{aligned}$$

$R^2 = 0.970$ S.E. = 62 D.W. = 1.80
 Sample Period 1961-1973 D. = 1.35

(E.16) EMACH\$ Exports of Machinery to China

$$EMACH\$ = 17.40668 + 0.35579 GNPCH9 - 39.3286 Q6870$$

(0.48) (1.02) (2.84)

(44)

 $R^2 = 0.509$ S.E. = 20 D.W. = 1.80
 Sample Period 1962-1972
(E.17) EOCH\$ Exports of Other than Machinery to China

$$EOCH\$ = - 9.2943 + 0.48417 EMACH\$$$

(0.56) (1.57)

(38)

$$+ 0.66898 EOCH\$-1$$

(7.20)

 $R^2 = 0.898$ S.E. = 28 D.W. = 2.83
 Sample Period 1961-1973 D. = 1.66
(E.18) ETCH\$ Total Exports to China

$$ETCH\$ = EMACH\$ + EOCH\$$$

(E.19) ECUBA\$ Exports to Cuba

$$ECUBA\$ = - 12.8513 + 3.71639 \quad WT9 + 37.719 \quad Q6263 \\ (0.26) \quad (12.38) \quad (0.96)$$

$$R^2 = 0.948 \quad S.E. \quad 46 \quad D.W. = 0.93$$

(E.20) ETW\$ Exports to the World

$$ETW\$ \equiv ETDW\$ + ETCM\& \quad PREX9 + ETCH\$ + EOSC\$$$

$$+ ECUBA\$ + ETLDC\$ + EUSW\$9$$

(E.21) ETW70 Exports to the World at Domestic Constant Prices

$$ETW70 \equiv 1.5 \quad \frac{100 \text{ ETW\$}}{\text{PREX9 PTX9}}$$

M

Imports(M.1) MRMCM& Imports of Raw Materials and Semifabricates from CMEA

$$\frac{100 \text{ MRMCM\&}}{\text{PMRMCM9}} = 502.182 + 0.073422 \frac{100 \text{ ERMCM\&}}{\text{PERMCM9}}$$

(13.02) (5.81)

$$(717) \quad + 0.13713 \quad \text{DEVMMACM\&-1}$$

(1.97)

 $R^2 = 0.755 \quad S.E. = 42 \quad D.W. = 1.61$

Sample Period 1960-1973

Where $\text{DEVMMACM\&} = \{\text{MMACM\&} - (-983.61 + 179.55 \text{ QT50})\}$ (M.2) MMACM& Imports of Machinery from CMEA

$$\text{MMACM\&} = -756.457 + 1.09899 \text{ ERMCM\&}$$

(2.50) (4.88) (19.09)

$$+ 1.714289 \text{ DEVEMACM\&-1}$$

(3.10)

 $R^2 = 0.972 \quad S.E. = 145 \quad D.W. = 1.47$

Sample Period 1960-1973

Where $\text{DEVEMACM\&} = \{\text{EMACM\&} - (-915.905 + 109.89 \text{ QT50})\}$

(M.3) MFOCM& Imports of Food from CMEA

$$MFOCM& = - 327.438 + 6.62172 CRF$$

(2.81) (3.09)

(379)

$$+ 0.407572 MFOCM&_{-1}$$

(1.91)

$R^2 = 0.971$ S.E. = 30 D.W. = 2.15
 Sample Period 1960-1972 D. = 0.42

(M.4) MCOCM& Imports of Manufactured Consumer Goods from CMEA

$$MCOCM& = - 253.2914 + 12.8992 CRND$$

(1.58) (1.35)

(1010)

$$+ 0.20878 ENETCM&_{-1}$$

(1.41)

$$+ 0.81653 MCOCM&_{-1}$$

(3.39)

$R^2 = 0.983$ S.E. = 60 D.W. = 1.84
 Sample Period 1960-1972 D. = 0.58

(M.5) MTCM& Total Imports from CMEA

$$MTCM& \equiv MRMCM& + MMACM& + MFOCM& + MCOCM& + MUSCM&_9$$

(M.6) MNGDW\$ Imports Other Than Grain from the Developed West

$$\frac{100.MNGDW$}{PMAW9} = -2803.8 + 47.80074 XITOT +$$

$$+ (5.04) \quad (9.75)$$

$$601.24 \left(\frac{PGOLD9 \cdot FGOLD+FSTK\$-FDEBT\$}{MTDW\$} \right)_{-1}$$

$R^2 = .955$ S.E. = 162. DW = 1.64
 Sample Period 1961 - 1973
 Revised 11/11/75

(M.7) MMADW\$ Imports of Machinery from the DW

$$\frac{100.MMADW$}{P71GE9_{-1}} = -621.19 + 61.98962IIN$$

$$+ (1.09) \quad (3.68)$$

$$+ 197.984 \left(\frac{PGOLD9 \cdot FGOLD+FSTK\$-FDEBT\$}{MTDW\$} \right)_{-1}$$

$$+ 69.596 \left(\frac{FDHCS}{FDEBT\$} \right)_{-1} - 33.122 \frac{MGRDW\$}{PGR9}$$

$R^2 = 0.786$ S.E. = 170. DW = 1.58
 Sample Period 1961 - 1973
 Revised 11/11/75

(M.8) MCODW\$ Imports of Consumer Goods other than Grain from the DW

$$\frac{MCODW\$}{MNGDW\$-MUSDW\$9} = -0.221545 + 0.634093 \frac{CR - CR_{-1}}{CR_{-1}}$$

+ (0.0748)

$$+ 4.68463 \frac{CRD}{CR} - 0.11211 \frac{MGRDW\$}{MTDW\$}$$

$$+ (7.29) \quad (2.01)$$

(M.8) MCODW\$ Imports of Consumer Goods other than Grain from the DW, Continued

$$R^2 = 0.871 \quad S.E. = 0.020 \quad DW = 1.77$$

Sample Period 1960 - 1972

(M.9) MRMDW\$ Imports of Raw Materials from the DW

$$MRMDW\$ = MNGDW\$ - MMADW\$ - MCODW\$ - MUSDW\$$$

(M.10) MGRDW\$ Imports of Grain from the DW

$$10^4 \cdot \left(\frac{MGRDW\$}{PGR9 \cdot GRAVE} + \frac{MGRDW\$_{-1}}{PGR9_{-1} GRAVE_{-1}} \right) = 133.01 - 1794.959 \left(\frac{GRSTK + GRSTK_{-1}}{GRAVE + GRAVE_{-1}} \right)$$

$$- 106.585 \left(\frac{PGOLD9 \cdot FGOLD + FSTK\$ - FDEBTS\$}{MTDW\$} \right)_{-1}$$

$$R^2 = .663 \quad S.E. = 79.6 \quad DW = 2.04$$

$$GRAVE = XGR + XGR_{-1} + XGR_{-2}$$

Sample Period 1961 - 1973

Revised 11/11/75 (now a behavioral eq'n)

(M.12) MTLDC\$ Total Imports from the Less Developed Countries

$$MTLDC\$ = - 99.3283 + 0.507074 ETLDC\$$$

(1.43) (2.66)

(1064)

$$+ \frac{1538.13}{(3.78)} \left\{ \frac{PRMW9}{PMAW9} - \frac{PRMW9-1}{PMAW9-1} \right\}$$

$$- \frac{136.922}{(1.86)} Q67 + 0.674961 MTLDC\$-1$$

$R^2 = 0.989$ S.E. = 67 D.W. = 2.04
 Sample Period 1960-1973 D. = 0.11

(M.13) MOSC\$ Total Imports from Yugoslavia and the Far Eastern Socialist Countries (Except China)

$$MOSC\$ = 95.07715 + 0.46756 EOSC\$$$

(2.50) (9.33)

(418)

$R^2 = 0.888$ S.E. = 57 D.W. = 0.76
 Sample Period 1961-1973

(M.14) MTCH\$ Imports from China

$$MTCH\$ = - 3.81454 + 1.03969 ETCH\$ + 212.664 Q6164$$

(0.30) (23.99) (11.14)

(259)

(M.14) MTCH\$ Imports from China, Continued $R^2 = 0.987$ S.E. = 31 D.W. = 3.01

Sample Period 1960-1972

(M.15) MCUBA\$ Imports from Cuba

$$100. \frac{MCUBA\$}{PSUGSU9} = 347.80 + 5.31084 XSUG9 - 1 - 0.86734 WT^9$$

$$(2.10) \quad (2.83) \quad (1.69)$$

$$(311)$$

$$- 213.32 \frac{PSUGW9}{PSUGSU9}$$

$$(1.56)$$

 $R^2 = 0.519$ S.E. = 81 D.W. = 2.81
Sample Period 1960-1973(M.16) MTWS\$ Imports from the World

$$MTWS\$ \equiv MTDWS + MTCM& PREX9 + MTLDC\$ + MOSC\$ + MTCH\$$$

$$+ MCUBA\$ + MUSWS9$$

(M.17) MTW70 Imports from the World at Constant Domestic Prices

$$MTW70 \equiv 2.00 \frac{100 MTWS\$}{PREX9 PTM9}$$

(M.18) MIEINS Imports from Developed West, Machinery and Equipment (less Transport Equipment)

$$\ln \frac{100 \cdot *MIEINS}{IIN*PMAW9_{-1}} = 3.16642 + 0.13621 \ln FLIQ_{-1}$$

(52.43) (1.85)

(3.210)

$$- 0.31936 Q6466 + 0.02056 QSH68*QT50$$

(3.20) (3.10)

 $R^2 = 0.377$ S.E. = 0.114 D.W. = 2.16
 Sample Period 1961-1973
(M.19) MTM10& Machinery Imports, Total, FTN10: Metal-Working

$$\ln \frac{100 \cdot MTM10\&}{IIMB*P71GE9_{-1}} = 3.95025 + 0.24639 \ln FLIQ_{-1}$$

(115.9) (4.78)

(3.936)

$$+ 0.60787 Q70 + 0.008716 QSH68*QT50$$

(5.98) (1.99)

 $R^2 = 0.886$ S.E. = 0.091 D.W. = 1.78
 Sample Period 1961-1972
(M.20) MTM12& Machinery Imports, Total, FTN12: Mining, Metallurgy and Petroleum

$$\ln \frac{100 \cdot MTM12\&}{IIPP*P71GE9_{-1}} = 4.38313 + 0.19781 \ln FLIQ_{-1}$$

(59.70) (3.68)

(4.334)

$$+ 0.12809 QFYP$$

(1.40)

 $R^2 = 0.649$ S.E. = 0.158 D.W. = 1.35
 Sample Period 1961-1972

(M.21) MIECH\$ Machinery Imports, West, Chemical Equipment

$$\ln \frac{100 \cdot MIECH\$}{IICH^*P71GE9} = 4.74609 + 0.36499 \ln FLIQ - 1$$

(4.454)

$$- 0.47258 QFYP + 0.01588 QSH68*QT50$$

(3.60) (1.54)

 $R^2 = 0.666 \quad S.E. = 0.222 \quad D.W. = 2.35$

Sample Period 1961-1973

F Hard Currency(F.1) FNETHC Hard Currency Balance of Trade

$$FNETHC\$ = - 60.7808 + 1.21162 ENETDW\$$$

$$(1.45) \quad (14.32)$$

$$(-434)$$

$R^2 = 0.945$ S.E. = 123 D.W. = 2.12
Sample Period 1960-1973

(F.2) FCREP\$ Credit Repayments

$$FCREP\$ = 0.73024 + 0.28217 FCDR\$9-1$$

$$(0.05) \quad (2.90)$$

$$(246)$$

$$+ 0.68156 FCREP\$-1$$

$$(3.10)$$

$R^2 = 0.976$ S.E. = 28 D.W. = 1.26
Sample Period 1960-1973

(F.3) FDEBT\$ Outstanding Debt

$$FDEBT\$ \equiv FDEBT\$-1 + FCDR\$9 - FCREP\$$$

(F.4) FINT\$ Interest Payments

$$FINT\$ = - 4.0578 + 0.055122 (FDEBT\$ + FDEBT\$-1)/2$$

$$- (5.32) \quad (76.97)$$

$$(41.9)$$

$R^2 = 0.998$ S.E. = 1.6 D.W. = 1.96
Sample Period 1960-1972

(F.5) FDHC\$ Hard Currency Inflow (Balance of Payments)

$$FDHC\$ \equiv FNETHC\$ + FSER\$9 + FCDR\$9 + FGSALE\$$$

$$- FINT\$ - FCREP\$$$

(F.6) FSTK\$ Hard Currency Holdings

$$FSTK\$ \equiv FSTK\$-1 + FDHC\$$$

(F.7) FGSALE\$ Gold Sales

$$FGSALE\$ = 263.274 - 0.14013 \frac{FNETHC\$ + FNETHC\$-1}{2}$$

$$- (3.49) \quad (1.00)$$

$$(261)$$

$$- 0.45661 (FSTK\$ - FGSALE\$)$$

$$- (4.24)$$

(F.7) FGSALE\$ Gold Sales, Continued $R^2 = 0.828$ S.E. = 141 D.W. 2.27
Sample Period 1961-1973(F.8) FGOLD Gold Reserves

$$FGOLD \equiv FGOLD_{-1} + XGOLD9 - \frac{FGSALE\$}{PGOLD9}$$

(F.9) FLIQ Liquidity Ratio

$$FLIQ = \frac{FGOLD PGOLD9 - FDEBT\$}{MTDW\$}$$

G AGGREGATE IDENTITIES AND BALANCES(G.1) GNPNA Non-agricultural Gross National Product

$$GNPNA \equiv 1.76628 XITOT + 0.59943 XCRUB + 0.34390 XT7R$$

$$+ 0.17099 \frac{XTRADE}{1.156} + 0.43808 XSER$$

(G.2) GNPA Agricultural Gross National Product

$$GNPA \equiv XAT - 11.230 \frac{AACI}{135.}$$

(G.3) GNP Gross National Product

$$GNP \equiv GNPNA + GNPA$$

(G.4) GIKREP Capital Repair

$$0.17391 \frac{GIKREP}{KSUM} = 0.02942 - 0.00021 QT50$$

$$(52.21) \quad (6.48)$$

$R^2 = .792$ S.E. = 0.0004 D.W. = 1.60
 Sample Period 1960 - 1973

(G.5) GEUSUM End-Use Sum, Excluding Foreign Trade and Consumption

$$\begin{aligned}
 \text{GEUSUM} \equiv & \{ \text{BAD} + \frac{6.954}{49.5} (\text{BSC\&BNAUK\&}) \} / (.65 \frac{\text{WGS\&}}{1246.8} + .35 \frac{\text{PIWH70}}{100}) \\
 & + \text{BNAUK\&} / (.2 \frac{\text{WGS\&}}{1246.8} + .8 \frac{\text{PIWH70}}{100}) \\
 & + (\text{BD\&9} - \text{BDN\&9}) + 100 \cdot \text{BDN\&9} / \text{PIWH70} \\
 & + \text{ITOTAL} + \text{I70T} + \text{I70NTA} + .17391 \text{ GIKREP}
 \end{aligned}$$

(Administration + Science + Defense + New Investment
+ Inventory Change + Capital Repair)

(G.6) GRESEM End-Use Residual

$$\text{GRESEM} = 0.03219 \text{ GNP} - 1.25214 \text{ QSH65} \\
 (10.85) \quad (0.95) \\
 (7.77)$$

$$+ 0.50992 \text{ (XAT-XATPK)} \\
 (2.13)$$

$R^2 = 0.634$ S.E. = 2.51 D.W. = 2.20
Sample Period 1960 - 1972

Note: Actual Values for GRESEM defined by

$$\text{GRESEM} \equiv \text{GNP} + .001 (\text{MTW70} - \text{ETW70}) - \text{GEUSUM-CR}$$

(G.7) GSIMRES \equiv GNP + .001 (MTW70 - ETW70) - GEUSUM

- CR - GRESEM

NOTE: Actual values for GSIMRES are identically zero. Solution values represent the difference between "production" and "end use" determinations of GNP when consumption is not obtained by residual identity.

Appendix B

DOCUMENTATION FOR THE SRI-WEFA ECONOMETRIC MODEL OF THE SOVIET UNION
- SOVMOD III -

APPENDIX B

DOCUMENTATION FOR THE

SRI-WEFA

ECONOMETRIC MODEL OF THE SOVIET UNION:

SOVMOD III

by

DONALD W. GREEN, GENE D. GUILL, PETER MIOVIC

I. Structure and Scale:

In its fully endogenous mode, the model consists of 189 stochastic relationships (behavioral and technical) and 106 identities arranged in the sectors given below. Each sector is identified by a single letter which is then used as the initial letter in the names of all variables determined in that sector.

<u>SECTOR IDENTIFIER</u>		<u>EQUATIONS</u>	
		<u>BEHAVIORAL</u>	<u>IDENTITY</u>
N	Population and Employment	27	3
I	Investment	20	6
K	Capital Formation	18	24
A	Other Agricultural Variables	3	
X	Production	28	1
U	Material Inputs		34
W	Wages	24	
Z	Incomes	5	5
P	Prices	12	2
C	Consumption	4	2
T	Budget Revenues	5	2
B	Budget Outlays	8	3
E	Exports	14	8
M	Imports	16	5
F	Hard Currency	4	5
G	Aggregate Identities & Balances	1	6
TOTAL		189	106

II. Simulation of SOVMOD III:

The model is encoded into a simulation program using the WEFA general model solution system SOLVEM.*/ This program has standard facilities to convert the status of any variable from endogenous to exogenous and to apply additive adjustments to any behavioral variable. In addition it has the facility to exogenize entire BLOCKS of equations. In SOVMOD III the equations have been grouped in the following way:

BLOCK NUMBER	DESCRIPTION	CONSISTING OF SECTORS
1 A	Population and Employment	N
2 B	Capital Formation	K
3 C	Production, Non-Agricultural	X.7-X.23
4 D	Wages, Incomes and Prices	W,Z,P
5 E	Investment	I
6 F	Consumption	C
7 G	State Budget	T,B
8 H	Foreign Sector	E,M,F
9 I	Aggregates	G
10 J	Material Inputs	U
11 K	Agriculture	A,X.1-X.6

Most of the simultaneity in the model occurs in Blocks 1-5 and 10-11; the other four Blocks are virtually post-recursive except for certain import equations (grain and machinery) in Block 8.

SOLVEM also has the facility to allow the user to select different alternatives of an equation or a set of equations, thus establishing different variants of the model. The alternative switches encoded in SOVMOD II are given on the following page where ZERO is the initial default option.

^{*/}The coding of SOVMOD III was done by Raymond Chien. We are indebted to George Schink and Bill Brown, the developers of SOLVEM, for guidance in using it for this model.

<u>ALTERNATE SWITCH NUMBER</u>	<u>SETTING</u>	<u>ALTERNATIVE</u>	<u>EQUATION NUMBERS</u>
ISECTOR	0	Non-agricultural investment by adding components.	I.1a-6a
	1	Non-agricultural investment by direct function (components by exogenous ratios).	I.1b-6b
IBRANCH	0	Industrial branch investment by direct function.	I.10a-I.20a
	1	Industrial branch investment determined from aggregate level by exogenous shares.	I.10b-I.20b
PROFIT	0	Gross profits, non-residual.	Z.9a
	1	Gross profits, residual income.	Z.9b
CTOTAL	0	Total consumption by adding components.	C.1a,C.6a or C.6b
	1	Total consumption by direct function.	C.1b,C.6b
	2	Total consumption by residual function.	C.1c,C.6b
CSHARE	0	Consumption components by direct functions.	C.2a-C.5a
	1	Consumption components by share functions.	C.2b-C.5b
	2	Output determination of services and share determination of non-services components.	C.2c-C.5c
XIND	0	Industrial output, aggregation identity.	X.19a
	1	Industrial output, no foreign capital stock.	X.19b
	2	Industrial output, foreign and domestic capital stocks.	X.19c
XFACT	0	Direct production functions for industrial branches using only primary inputs.	X.7a-X.18a
	1	Production functions using exogenous material input series from I-O data.	X.7b-X.18b

<u>ALTERNATE SWITCH NUMBER</u>	<u>SETTING</u>	<u>ALTERNATIVE</u>	<u>EQUATION NUMBERS</u>
XFACT (con't)	2	Same production functions as ONE with material inputs determined endogenously with exogenous B matrix.	X.7b-X.18b
	3	Same production functions as ONE with material inputs given endogenously using B matrix determined by Hickman-Lau system.	X.7b-X.18b

Except in the form in which total consumption is residually determined (Alt. 4=TWO), GNP is determined both from the side of production (eq. G.3) and from the side of use (by adding components). The difference is a simulation residual defined in equation G.7.

III. Variables:

Variables in the model are contained in the attached alphabetical list; there are 295 endogenous and 164 exogenous variables.*/ The following naming conventions have been employed. The reader is urged to study these conventions prior to consulting the equations of the model as an understanding of them will greatly facilitate that process.

^{*/} There are six additional variables presently in SOVMOD III which are vestiges of SOVMOD II and are inoperative in the new model.

<u>SYMBOL</u>	<u>CONVENTION</u>	
<u>Initial Symbol</u>		
Sector Symbols	Sector of model (see above list) in which endogenous variable is determined.	
Q	Dummy or time trend variables (figures following generally denote year(s), e.g., Q65 is a dummy variable for 1965).	
<u>Final Symbol</u>		
9	Exogenous variable other than Q-type.	
<u>Embedded or Trailing Symbols</u>		
Industries	I Industry C Construction T Transport and Communication S Domestic Trade G Government and Services A Agriculture	
Industrial Branches	EP Electro Energy CP Coal Products PP Petroleum Products FM Ferrous Metallurgy NF Nonferrous Metallurgy CH Chemicals and Petrochemicals FP Forest Products PA Paper and Pulp CM Construction Materials MB Machine-Building and Metal-Working SG Soft Goods FF Processed Foods NC Not-Classified Elsewhere (Residual)	
Other	*	Current ruble value (always used)
	\$	Current dollar value (always used)
	70	1970 Ruble basis (not always used)

NOTE: A variable is exogenous if and only if its name ends in 9 or begins with Q.

Data file management programs developed at WEFA were used to construct maintain and utilize a databank for the model.^{*/} The structure of the list of variables is largely self-explanatory. The set of model variables is a subset of the complete Soviet data-bank.

IV. Technical Progress Feature:

SOVMOD III has been coded so that the analyst may vary the rate of Hicks-neutral technical progress by sector and branch in a convenient way. The period desired for the variation is defined by setting the exogenous variable QLIM equal to 1 for those years. The magnitude of the variation in technical progress is set by changing the following model coefficients:

BRANCH	TECHNICAL PROGRESS VARIATION COEFFICIENT
Aggregate Industry	1000
EP	878
CP	876
PP	877
FM	879
NF	880
CH	882
MB	883
FP	884
PA	887
CM	881
SG	885
PF	886
Construction	1002
Transport/Communications	1003
Domestic Trade	1004
Services	1005
Total Agriculture	1006
Total Crops	1007
Animal Products	1008
Meat	1009
Grain (official)	1010
Grain (Western)	1011

^{*/}We are indebted to Virginia Long for assistance in setting up these programs for our purposes. The present SOVMOD Databank has evolved through several generations of software under the patient guidance of Betsy Donovan.

If, for example, the analyst wishes to augment the rate of Hicks-neutral technical progress in machine-building and metal-working by 2% over the forecast period 1976-1980, he should set QLIM=1 for 1976-1980 by exogenous assumption and set C(883) = .02. Such an adjustment may be made in the downward direction as well by setting C(883) = -.02.

V. Equations:*/

Equations are arranged by sector in the sector-order given above. Behavioral equations are written in the form used for estimation with the sample mean value of the dependent variable shown in parentheses beneath it. In some cases auxiliary variables have been defined below the equation in which they appear. Such auxiliary variables serve only this presentation purpose and do not have model variable numbers.

Figures in parentheses under coefficients are t-statistics; absence thereof implies extraneous estimate. R^2 is the multiple correlation coefficient (unadjusted for degrees of freedom); S.E. is the standard error of estimate and D.W. the Durbin-Watson statistic; D is the normal variate devised by Durbin to test for first order serial correlation in the presence of a lagged dependent variable.

Final questions were estimabed by ordinary least squares using T.S.P. (Time Series Processor).†/

*/ In the estimation of SOVMOD III, valuable research assistance was provided by Raymond Chi  n and Tayyeb Shabbir.

†/ We are indebted to Jean-Pierre LeMaitre, Douglas Bracy and Colin Wordley for assistance in adapting this program to our data files.

DOCUMENTATION

SERIES LABEL	VAR# DESCRIPTION	UNITS	SOURCE	PRECISION
AEFF070	410 VALUE OF FED FED TO LIVESTOCK, 1970 PRICES	B,1970 RUBLES	STATIST 062475	5
ALVH70	101 VALUE OF PRODUCTIVE LIVESTOCK (IND-VR), 1970 PRICE, WG19	B,1970R	OTER-THAN	5
ASCHQ	404 AREA DOWN TO GRAIN	M,HECTARES	SAI075	5
AVP70	102 VALUE OF AGRICULTURAL CURRENT PURCHASES	B,1970 RUBLES	OTER1976	5
BDU*	149 STATE BUDGET EXPENDITURES, ADMINISTRATION	B,CUR	KKH02	5
BLADMIN	424 INDEX OF ADMINISTRATION & MISC. SERVICES (EST. PRICES)	1970*100	OTER5	5
HO49	152 STATE BUDGET EXPENDITURES, DEFENSE	B,CUR	KKH02	5
BD449	153 DEFENSE MOPHUSION EXPENDITURES IN CURRENT PRICES	B,CUR,	CDH470	5
BDH*9	429 DEFENSE MOPHUSION EXPENDITURES IN CURRENT PRICES	B,CUR,	CDH174	5
BDSH*9	428 CHANGE IN STATE RESERVES, MILITARY PROCUREMENT ESTIMATE	B,CUR,RUBLES	CDHNT0	1
BDT*	425 DEFENSE AND STATE RESERVES, CURRENT RUBLES	B,CUR,R	CDHNT6	5
BDT70	426 DEFENSE AND STATE RESERVES, 1970 RUBLES	B,1970R	CDHNT6-THAN	5
BF*	146 STATE BUDGET EXPENDITURES, FINANCING THE NATIONAL ECONOMY, TOTAL	B,CUR	KKH02	5
BG*	151 STATE BUDGET EXPENDITURES, GOVT SPENDING, STATE ACCOUNTS BASTIS	B,CUR	KKH02	5
BNLNU*	148 SCIENCE EXPENDITURES, USSR BUDGET (CURRENT PRICES)	B,RUHL	CDH413	5
BNES*	150 STATE BUDGET EXPENDITURE RESIDUAL	B,RUHL	KKH02	5
BNESD*V	423 INDEX OF RESEARCH AND DEVELOPMENT (EST. PRICES)	1970*100	DEHT5	5
BSG*	147 STATE BUDGET EXPENDITURES, SOCIAL AND CULTURAL MEASURES (INCL. S	B,CUR	KKH02	5
BLRAN*	241 TRANSFER PAYMENTS	B,CUR, RUBLES	JFC76	5
CHD70	137 CONSUMPTION OF DURABLES, 1970 EST. PRICES	B,1970 RUBLES	JFC76	5
CHF70	135 CONSUMPTION OF FLUID, 1970 EST. PRICES	B,1970 RUBLES	JFC76	5
CHN70	136 CONSUMPTION OF SOFT GOODS, 1970 EST. PRICES	B,1970 RUBLES	JFC76	5
CHN70	224 CONSUMPTION OF NONSERVICES, 1970 EST. PRICES	B,1970 RUBLES	JFC76-THAN	5
CH70	138 CONSUMPTION OF SERVICES, 1970 EST. PRICES	B,1970 RUBLES	JFC76-THAN	5
CH70	134 TOTAL CONSUMPTION, 1970 EST. PRICES	B,1970 RUBLES	JFC76-THAN	5
CHC70	257 EXPORTS TO CMEA OF CATEGORY III AND IV EXCEPT GRAIN	MHH	JFC76,ULR70,THAN	5
CHC70	272 EXPORTS TO CUBA	MHSUS	DER	5
CHC70	262 EXPORTS OF FOOD TO THE DM	MHSUS	DER	5
CHC70	256 GRAIN EXPORTS TO CMEA	MHR	DER	5
CHC70	261 GRAIN EXPORTS TO THE DM	MHSUS	DER	5
CHC70	267 GRAIN EXPORTS TO LDC	MHSUS	DER	5
CHC70	269 EXPORTS OF MACHINERY TO CHINA	MHSUS	DER	5
CHC70	255 EXPORTS TO CMEA OF CMEA CATEGORY I COMMODITIES	MHB	INDIANA	5
CHC70	259 BALANCE OF TRADE WITH CMEA	MHR	INDIANA	5
CHC70	265 LTD-8-10M\$	MHSUS	DER	5
CHC70	264 MFT GRAIN EXPORT BALANCE AT 6% PRICES	CONS	INDIANA	5
CHC70	260 EXPORTS TO THE DM OTHER THAN FOOD	MHSUS	DER	5
CHC70	270 NONMACHINERY EXPORTS TO CHINA	MHSUS	DER	5
CHC70	268 EXPORTS TO YUGOSLAVIA AND THE FAR-EASTERN SOCIALIST COUNTRIES	MHSUS	DER	5
CHC70	254 EXPORTS TO CMEA OF CMEA CATEGORY II COMMODITIES	MHR	INDIANA	5
CHC70	271 TOTAL EXPORTS TO CHINA	MHSUS	DER	5
CHC70	258 TOTAL EXPORTS TO EUROPEAN CMEA (EX-YUGOSLAVIA, ALBANIA)	MHR	INDIANA	5
CHC70	263 TOTAL EXPORTS TO THE DEVELOPED WEST	MHSUS	DER	5
CHC70	266 TOTAL EXPORTS TO LOC	MHSUS	DER	5
CHC70	273 TOTAL EXPORTS TO THE WORLD	MHSUS	DER	5
CHC70	274 TOTAL EXPORTS TO THE WORLD IN DOMESTIC CURRENCY	M 1970	INDIANA	5
CHC70	312 UNSPECIFIED EXPORTS TO CMEA	MHH	INDIANA	5
CHC70	304 UNSPECIFIED EXPORTS TO THE WORLD	MHSUS	DER	5
CHC70	330 HARD CURRENCY CREDIT DRAWINGS	MHSUS	DER	5
CHC70	322 CREDIT REPAYMENTS IN HAND CURRENCY	MHSUS	DER	5

DOCUMENTATION

SERIES LABEL	VAR# DESCRIPTION	DOCUMENTATION	UNITS	SOURCE	PRECISION
FDUUS	323 OUTSTANDING DEBT AT THE END OF THE YEAR		HSUS	GER	3
FDHCS	325 HARD CURN. BALANCE OF P. SUPPLUSES+NETHC+S+SALES+CORR&G+LTHQ+IN		HSUS	GER	3
FGOLD	328 GOLD RESERVES AT THE END OF THE YEAR		TUNS	GER	3
FGSALE	327 GOLD SALES		HSUS	GER	3
FINS	324 INTEREST PAYMENTS IN HARD CURRENCY		HSUS	GER	3
FLD	329 HARD CURRENCY LIQUIDITY (GOLD+GOLD+FOLHIS)/MTONS		HSUS	GER+TRAN	3
FNETHUS	321 HARD CURRENCY BALANCE OF PAYMENTS		HSUS	GER	3
FSFAG	320 HARD CURRENCY BALANCE OF SERVICES AND TRANSERS		HSUS	GER	3
FSIKS	325 ACCUMULATED HC HOLDINGS SINCE 1959		HSUS	GER+TRAN	3
GEUSUM	210 END-USE SUM (EXCLUDING CONSUMPTION, NET EXPORTS)		B,1970H	GER+TRAN	3
GNP3	420 SOVIET NET MATERIAL PRODUCT, EST. PRICE 1970 WEIGHTS		B,1970H	GER+TRAN	3
GNPAS	425 AGRICULTURAL GNP, TOTAL OUTPUT LEGS CURRENT PURCHASES		B,1970H	GER+TRAN	3
GNPCHN	506 GNP OF CHINA		1968-10	JTC	3
GNPGRS	94 AGRICULTURAL GNP, EST. PRICE 1970 WEIGHTS		B,1970H	GER+TRAN	3
GRH3	96 SOVIET GNP, SOWNHOLD 111 (GPAJ+GPAH)7,96264		B,1970H	GER+TRAN	3
GHESTM	191 GNP END-USE RESIDUAL = GPN+GTSUUS+CRC+0.001ETM70-MINW70)		B,1970H	TRAN	3
GSIHRS	244 ZEROTS TO USE AS ACTUAL VALUES FOR SIMULATION RESIDUAL		NUNF	NONE	3
IA	113 CAPITAL INVESTMENT IN AGRICULTURE 72H		B,19/	TRAN	3
ICAPATP	155 INDEX OF CAPITAL REPAIRS		1970-100	QERTS	3
ICRHU	14 CAPITAL INVESTMENT IN CONSTRUCTION		B RUB	NARKHOZ	3
IFAG-9	22 STATE BUDGET FINANCE, AGRICULTURE		B CURN	PRAVDA	3
IFAJ-	227 STATE BUDGET FINANCING OF CENTRALIZED INV., ADJUSTED		B CURN	TRAN	3
IFINR-9	20 INDUSTRY AND CONSTRUCTION		B CURN	CUR DIG	3
IFTR-9	21 TRANSPORTATION AND COMMUNICATION		B CURN	CUR DIG	3
JHS	16 INVESTMENT IN HOUSING, ADJ TO 1970 PRICES		B RUB	NARKHUS	3
IICH	6 CAPITAL INVESTMENT, CHEMICALS AND PETROCHEMICALS)		B 1970	NKH02	3
IICH	9 CAPITAL INVESTMENT, (CONSTRUCTION MATERIALS)		B 1970	NKH02	3
IICP	3 CAPITAL INVESTMENT, (COAL PRODUCTS)		B 1970	NKH02	3
IIEP	2 CAPITAL INVESTMENT, (ELECTROENERGY)		B 1970	NKH02	3
IIFH	5 CAPITAL INVESTMENT, (FERROUS METALS)		B 1970	NKH02	3
IIFP	8 CAPITAL INVESTMENT, (FURHEST PRODUCTS (INC PAPER))		B 1970	NKH02	3
IIMB	7 CAPITAL INVESTMENT, (MACHINE BUILDING AND METAL WORKING)		B 1970	NKH02	3
IIN	1 CAPITAL INVESTMENT IN INDUSTRY 72R		B,1972R	NARKHOZ	3
IINR	12 CAPITAL INVESTMENT, NONFERROUS METALLURGY (RESIDUAL CATEGORY)		B,1972R	NKH02	3
IIPF	11 CAPITAL INVESTMENT, (PROCESSED FOOD INDUSTRY)		B 1970	NKH02	3
IIPP	4 CAPITAL INVESTMENT, (PETROLEUM PRODUCTS)		B 1970	NKH02	3
IISG	10 CAPITAL INVESTMENT, (LIGHT INDUSTRY)		B 1970	NKH02	3
INA	1A INVESTMENT MONAGRICULTURAL		B RUB	TRAN	3
INCH9	235 BRANCH INVESTMENT SHARE CHEMICALS & PETROCHEMICALS		NONE	NKH+TRA	3
INCM9	238 BRANCH INVESTMENT SHARE CONSTRUCTION MATERIALS		NONE	NKH+TRA	3
INCP9	231 BRANCH INVESTMENT SHARE COAL PRODUCTS		NONE	NKH+TRA	3
INFP9	230 BRANCH INVESTMENT SHARE ELECTROENERGY		NONE	NKH+TRA	3
INFM9	233 BRANCH INVESTMENT SHARE FERROUS METALLURGY		NONE	NKH+TRA	3
INFP9	237 BRANCH INVESTMENT SHARE FOREST PRODUCTS		NONE	NKH+TRA	3
INIC9	184 PERCENTAGE MONAGRICULTURAL INVESTMENT, CONSTRUCTION		NONE	TRAN	3
INIM9	185 PERCENTAGE MONAGRICULTURAL INVESTMENT, HOUSING		NONE	TRAN	3
INII9	161 PERCENTAGE MONAGRICULTURAL INVESTMENT, INDUSTRY		NONE	TRAN	3
INIS9	167 PERCENTAGE MONAGRICULTURAL INVESTMENT, SERVICES		NONE	TRAN	3
INIT9	185 PERCENTAGE MONAGRICULTURAL INVESTMENT, TRANSPORT AND COMMUNIC		NONE	TRAN	3
INPB9	236 BRANCH INVESTMENT SHARE MACHIN-BUILDING & METAL-WORKING		NONE	NKH+TRA	3

DOCUMENTATION

SERIES LABEL	VAR# DESCRIPTION	UNITS	SOURCE	PRECISION
IRNF9	250 BRANCH INVESTMENT SHARE IN NON-FERROUS (RESIDUAL SHARE)	None	NKH-TRA	3
IRPF9	240 BRANCH INVESTMENT SHARE IN PROCESSED FOODS	None	NKH-TRA	3
IRPF9	242 BRANCH INVESTMENT SHARE IN PETROLEUM PRODUCTS	None	NKH-TRA	3
IRPF9	249 BRANCH INVESTMENT SHARE IN SOFT GOODS	None	NKH-TRA	3
IRSG9	17 CAPITAL INVESTMENT IN SERVICES 72R	B RUB	NKH-TRA	3
ISER	419 TOTAL ACCUMULATION FUND, FIXED CAPITAL, INVENT., & LIVESTOCK INVENTORY STOCK, END YEAR, NON-TRADE, NON-AGR, 1970 PRICE ³	B,1970R	NKH,GH,OTH-TRAN	3
ISUM	156 INVENTORY STOCK, END YEAR, NON-TRADE, NON-AGR, 1970 PRICE ³	B,197	TRAN	3
ISYONTA	157 INVENTORY STOCK, END YEAR, DOMESTIC TRADE, 1970 PRICES	B,197	TRAN	3
ISYONT	14 INVESTMENT, NATIONAL ECONOMY	D RUB	TRAN	3
ITRNUH	15 CAPITAL INVESTMENT IN TRANSPORT & COMMUNICATIONS	B RUB	NKHNUZ	3
ITRONTA	158 CHANGE IN INV. STOCK, END YEAR AT 1970 PRICES, NON-TRADE NUN-AGR	B,197	TRAN	3
ITRONT	159 CHANGE IN INV. STOCK, END YEAR AT 1970 PRICES, DOMESTIC TRADE	B,197	TRAN	3
IP59	98 SUM OF DEVIATIONS FROM MONTHLY PRECIPITATION VALUES	CM	IMS	3
JM19	99 WEATHER INDEX, WINTER TEMP INDEX FOR SOUTHERN UKRAINE	None	D-G	3
KAIK	35 AGRICULTURAL FIXED CAPITAL (MEAN YEAR 1955 PRICES)	B RUB	DIMON	3
KCOM	39 BASIC FUNDS, TRADE, SUPPLY, OTHER MFLN, 1955 PRICES	B,1955R	NKH	3
KCR	36 BASIC FUNDS, CONSTRUCTION (JAN 1, 1955 PRICES)	B RUB	TRAN	3
KHA	42 ADJUSTED BASIC FUNDS, HOUSING (JAN 1, 1955 PRICES)	B RUB	TRAN	3
KHKh	38 BASIC FUNDS IN HOUSING (JAN 1, 1955 PRICES)	B RUB	NKHNUZ	3
KIA	41 ADJUSTED BASIC FUNDS, INDUSTRY (JAN 1, 1955 PRICES)	B RUB	TRAN	3
KICHN	339 IMPORTED WESTERN MACHINERY, CHEMICALS (JAN, 1)	B,1955R RUBLES	DWG76	3
KICHN	29 CAPITAL STOCK, CHEMICALS AND PETROCHEMICALS (JAN, 1)	B,1955R	COHN 70	3
KICHN	32 CAPITAL STOCK, CONSTRUCTION MATERIALS	B,1955R	COHN 70	3
KICP	26 CAPITAL STOCK, COAL PRODUCTS	B,1955R	COHN 70	3
KIEP	25 CAPITAL STOCK, ELECTRIC POWER	B,1955R	COHN 70	3
KIFM	28 CAPITAL STOCK, FERROUS METALS	B,1955H	COHN 70	3
KIFP	31 CAPITAL STOCK, FOREST PRODUCTS	B,1955H	COHN 70	3
KIM629	179 BASIC FUNDS ADJUSTMENT FOR 1962-1-H TRANSFER OF HOUSING CAPITAL	B RUB	TRAN	3
KIM64	340 IMPORTED MACHINERY, METAL-MURRING (JAN, 1)	B,1955 RUBLES	DWG76	3
KIPB	30 CAPITAL STOCK, MACHINE-BUILDING AND METAL-WORKING	B,1955H	COHN 70	3
KIPF	34 CAPITAL STOCK, PROCESSED FOODS	B,1955R	COHN 70	3
KIPPM	531 IMPORTED MACHINERY, PETROLEUM & MINING (JAN, 1)	B,1955 RUBLES	DWG76	3
KIPP	27 CAPITAL STOCK, PETROLEUM PRODUCTS	B,1955R	COHN 70	3
KISG	33 CAPITAL STOCK, SOFT GOODS	B,1955H	COHN 70	3
KITUT	24 CAPITAL STOCK, TOTAL INDUSTRY	B,195	COHN70	3
KIT1589	178 BASIC FUNDS ADJUSTMENT FOR 1958 I-I TRANSFER OF RR CAPITAL (AT	0,1955 RUBLES	TRAN	3
KIPr	44 IMPORTED WESTERN MACHINERY, INDUSTRY (JAN, 1)	0,1955 RUBLES	DWG76	3
KICUM	165 NET CHANGE IN BASIC FUNDS, DOMESTIC TRADE	B,1955R	NKH	3
KICOC	161 NET CHANGE IN BASIC FUNDS, CONSTRUCTION	B RUB	TRAN	3
KIDOH	166 NET CHANGE IN BASIC FUNDS, HOUSING	B RUB	TRAN	3
KIDOI	162 NET CHANGE IN BASIC FUNDS, INDUSTRY	B RUB	TRAN	3
KIDOI	164 NET CHANGE IN BASIC FUNDS, TRANSPORT & COMMUNICATIONS	B RUB	TRAN	3
KNICH	172 NET CHANGE IN BASIC FUNDS, CHM. & PETROCHEM.	B,1955R	NKH	3
KNICM	175 NET CHANGE IN BASIC FUNDS, CONSTRUCTION MATERIALS	B,1955R	NKH	3
KNICP	169 NET CHANGE IN BASIC FUNDS, CHM. & PETROCHEM.	B,1955R	NKH	3
KNICP	168 NET CHANGE IN BASIC FUNDS, CHM. & PETROCHEM.	B,1955H	NKH	3
KNIFP	171 NET CHANGE IN BASIC FUNDS, ELECTROENERGY	B,1955H	NKH	3
KNIFM	174 NET CHANGE IN BASIC FUNDS, FERROUS METALLURGY	B,1955R	NKH	3
KNIFP	175 NET CHANGE IN BASIC FUNDS, FOREST PRODUCTS	B,1955R	NKH	3
KNIM9	173 NET CHANGE IN BASIC FUNDS, MACH, HLDG, METAL WORK	B,1955H	NKH	3
KNIPF	177 NET CHANGE IN BASIC FUNDS, PROCESSED FOODS	B,1955R	NKH	3

DOCUMENTATION

SERIES LABEL	VAR#	DESCRIPTION	UNITS	SOURCE	PRECISION
KNPP	170	NET CHANGE IN BASIC FUNDS: PETROLEUM PRODUCTS	B,1955R	NKH	1
KNSSG	176	NET CHANGE IN BASIC FUNDS: SOFT GOODS	R,1955R	NKH	1
KNSEH	167	NET CHANGE IN BASIC FUNDS: SERVICES	R,1955R	NKH	1
KSFH	40	BASIC FUNDS, SERVICES (JAN. 1)	B,1955R	NKH	1
KSUM	154	BASIC FUNDS, NATIONAL ECONOMY, JULY 1	B,1955R	NKH	1
KTA	41	ADJUSTED BASIC FUNDS, TRANSPORT AND COMMUNICATION (JAN 1,1955 P	R,1955R	TRAN	1
KTCUS	97	RAILROAD CAR UTILIZATION, AVE 24HR DISTANCE PER FREIGHT CAR	R,RUB	TRAN	1
KTR	37	BASIC FUNDS, TRADE & COMM JAN 1,1955, PRICES	KMS/2	TRAN	1
KNALQ	104	PERCENT OF KNAI LIVESTOCK BEING FATTENED & YOUNG LIVESTOCK	R,RUB	PERCEN	1
KCUCM	276	IMPORTS FROM CMEA OF CMEA CATEGORY IV COMMODITIES	KHB	HARHOZ	1
KCUDM	282	IMPORTS OF FOOD AND MANUF.,CONS,GENUS, EXCLUDED GRAIN, FROM THE DM	NASUS	INDIANA	1
KCUDH	289	IMPORTS FROM CUBA	NASUS	GER	1
KFICM	277	IMPORTS FROM CMEA OF CMEA CATEGORY III COMMODITIES	NKH	INDIANA	1
KGDRD	284	GRAIN IMPORTS FROM THE DM	NKH	GER	1
KIECM	342	IMPORTS, WEST, CHEMICAL EQUIPMENT	M,CUH,S	GERTY	1
KIFHS	211	IMPORTS, DEVELOPED WEST, MACHINERY EQUIPMENT (LESS TRANSPORT EQUIP	MASUS	71,EC	1
KMACM	276	IMPORTS FROM CMEA OF CMEA CATEGORY I COMMODITIES	KHB	INDIANA	1
KMDR	281	MACHINERY IMPORTS FROM THE DM	NASUS	GER	1
KMDR	280	IMPORTS FROM THE DM OTHER THAN GRAIN	NASUS	GER	1
KMSCS	287	IMPORTS FROM YUGOSLAVIA AND THE FAR EASTERN SOCIALIST COUNTRIES	NASUS	INDIANA	1
KRMCH	275	IMPORTS FROM CMEA OF CMEA CATEGORY II COMMODITIES	KHB	GER	1
KMDRS	283	IMPORTS FROM THE DM, OTHER THAN MACHINERY, CONS., OR UNSPEC.	NASUS	INDIANA	1
KTCHS	288	TOTAL IMPORTS FROM CHINA	NASUS	GER	1
KTCHS	279	TOTAL IMPORTS FROM EUR, CMEA (EXCL YUGOSLAVIA, ALBANIA)	NKH	INDIANA	1
KTDRS	285	TOTAL IMPORTS FROM THE DEVELOPED WEST	NASUS	GER	1
KTDRS	286	TOTAL IMPORTS FROM LDC	NASUS	GER	1
KTH100-5*	143	MKE IMPORTS ALL METAL-WORKING MKE INCL COMPLETE PLANTS	M,FT,RUBLES	VINTORG	1
KTH120-9*	341	MSE IMPORTS MINING, METALLURGICAL AND PETROLEUM	M,FT,RUBLES	VINTORG	1
KIM13	290	TOTAL IMPORTS FROM THE WORLD	NASUS	GER	1
KTH70	291	TOTAL IMPORTS FROM THE WORLD IN DOMESTIC CURRENCY	M,1970	INDIANA	1
KUSCM*9	311	UNSPECIFIED IMPORTS FROM CMEA	NKH	GER	1
KUSDRS*9	313	UNSPECIFIED IMPORTS FROM THE DM	NASUS	GER	1
KUSHSY	317	UNSPECIFIED IMPORTS FROM THE WORLD	NASUS	GER	1
NAKUL	402	AGRICULTURAL EMPLOYMENT, KOLKOZOY (COLLECTIVE FARMS)	M,PERSU	FAD75	1
NAPRV	66	AGRICULTURAL EMPLOYMENT, PRIVATE (MAN-YEAR EQUIVALENTS)	M,PERSU	FAD75	1
NASK	65	AGRICULTURAL EMPLOYMENT, STATE AND COLLECTIVE FARMS	M,PERSU	FAD75	1
NASUV	401	AGRICULTURAL EMPLOYMENT, SOVOKHOZOY (STATE FARMS)	M,PERSU	FAD75	1
NAT	67	AGRICULTURAL EMPLOYMENT, TOTAL	M,PLRSU	FAD75	1
NCM9	294	POPULATION IN THE EUROPEAN MKA	M	UN	1
NEIND9	74	HIGH ED,ENG., ALL INDUSTRIAL CATEGORIES	(000)	NKH0Z	1
NEIND9	334	HIGH ED,ED, M, METALLURGY	(000)	NKH0Z	1
NEIND9	535	HIGH ED,ED, M, MINING	(000)	NKH0Z	1
NETHQ	75	HIGH ED,ED, M, TRANSPORT	(000)	NKH0Z	1
NIEET	72	ENGINEERING-TECHNICAL WORKERS IN INDUSTRY	000 M	NARKH0Z	1
NLDCC9	504	POPULATION IN AFRICA, SOUTH AMERICA AND SOUTH ASIA	N	UN	1
NMC	60	EMPLOYMENT, CONSTRUCTION	000 PER	RAPAWY	1
NMD9	404	MILITARY MANPOWER	N,PERSONS	LEFS	1
NMF	58	EMPLOYMENT, FORESTRY	000 PER	RAPAWY	1
NMG	65	EMPLOYMENT, GOVERNMENT AND SERVICES	000 PER	NING THAN	1
NHL	45	EMPLOYMENT, INDUSTRIAL	000 PER	RAPAWY	1

DOCUMENTATION

STATES LABEL	VAR#	DESCRIPTION	UNITS	SOURCE	PRECISION
NMICH	51	AVERAGE ANNUAL EMPLOYMENT, BRANCHICHEMICALS & PETROCHEMICALS	000PEAS	RAPAMY	3
NMICH	52	AVERAGE ANNUAL EMPLOYMENT, BRANCHICONSTRUCTION MATERIALS	000PEAS	RAPAMY	3
NMICH	47	AVERAGE ANNUAL EMPLOYMENT, BRANCHICOAL PRODUCTS	000PEAS	RAPAMY	3
NMICH	46	AVERAGE ANNUAL EMPLOYMENT, BRANCHIELECTROENERGY	000PEAS	RAPAMY	3
NMICH	49	AVERAGE ANNUAL EMPLOYMENT, BRANCHIFERROUS METALLURGY	000PEAS	RAPAMY	3
NMICH	53	EMPLOYMENT, FOREST PRODUCTS (EXCL. PAPER)	000PEAS	RAPAMY	3
NMICH	52	AVERAGE ANNUAL EMPLOYMENT, BRANCHIMACHINE-BUILDING & METAL-WORK	000PEAS	RAPAMY	3
NMICH	57	AVERAGE ANNUAL EMPLOYMENT, BRANCHINE (RESIDUAL)	000PEAS	RAPAMY	3
NMICH	50	AVERAGE ANNUAL EMPLOYMENT, BRANCHINON-FERROUS METALLURGY	000PEAS	RAPAMY	3
NMICH	189	ANNUAL EMPLOYMENT, PULP & PAPER	THOUS, P	RAPAMY	3
NMICH	56	ANNUAL EMPLOYMENT, BRANCHIPROCESSED FOOD	000PEAS	RAPAMY	3
NMICH	48	ANNUAL EMPLOYMENT, BRANCHIPETROLEUM PRODUCTS	000PEAS	RAPAMY	3
NMICH	55	ANNUAL EMPLOYMENT, BRANCHISOF T GOODS (LIGHT INDUSTRY)	000PEAS	RAPAMY	3
NMICH	61	EMPLOYMENT, ALL NON-AGRICULTURAL SECTORS	000PEAS	RAPAMY	3
NMU	59	EMPLOYMENT, OTHER	000 PE	RAPAMY	3
NMS	62	EMPLOYMENT, TRADE ETC.	000 PE	RAPAMY	3
NMTC	61	EMPLOYMENT, TRANSPORTATION AND COMMUNICATIONS	000PEAS	NHG TRAN	3
NPOP▲HQ	69	POPULATION, ABLE BODIED AGES (16-59/54)	M, PTH,	73JEC52	3
NPOP▲HQ	71	POPULATION RURAL (END YEAR)	M, P	NHH 72,	3
NPOP▲HQ	70	POPULATION URBAN (END YEAR)	M, P	NHH 72,	3
NPOP▲HQ	68	POPULATION, TOTAL	M	TRAN	3
NPOP▲HQ	73	SPECIALISTS, MED (ENDYEAR), INTERPOLATION WITH LAGGED ENROLLMENT	000PEAS	NKH+DG	3
NPOP▲HQ	301	POPULATION IN WESTERN EUROPE	M	UN	3
PAFCT0	122	PRICE FLUID SOLD TO CONS, CO-OPS AT NEGOT P15, 1970W	1970=100	NKH+TRAN	3
PAFCT0	246	WORLD IMPORT PRICES WEIGHTED BY SOVIET EXPORTS	1963=10	NKH+TRAN	3
PAFCT0	190	UNIT VALUE PRICE OF FARMCA	1963=10	HEMETT	3
PAFCT0	123	CONSUMPTION PRICE, FLUID (FROM P1970 & PAFCT0)	1970=1	TRAN	3
PAFCT0	307	GDP DEFATOR, CURRENT RUBLE INCOME HEAVY/HEAVY/REAL GNP	1970=1	ESTIMAT	3
PGOLD9	519	PRICE OF GOLD	MASUS7U	UN	3
PGRA9	249	PRICE INDEX OF WORLD MARKET GRAIN PRICES	1963=10	NKH+TRAN	3
PIA	153	INVESTMENT DEFATOR, AGRICULTURE	1972=5	NARKHOZ	3
PIC	129	INVESTMENT DEFATOR, CONSTRUCTION SECTOR	1972=1	NARKHOZ	3
PIS	132	INVESTMENT DEFATOR, HOUSING	1972=1	NARKHOZ	3
PIT	128	INVESTMENT DEFATOR, INDUSTRY	1972=1	NARKHOZ	3
PIMF70	121	INDEX OF STATE RETAIL PRICES FOR FOOD GOODS (DEFLATED)	1970=1	NARKHOZ	3
PIS	131	INVESTMENT DEFATOR, SERVICES	1972=1	NARKHOZ	3
PIT	130	INVESTMENT DEFATOR, TRANSPORT AND COMMUNICATIONS	1972=1	NARKHOZ	3
PIMF70	126	INDEX OF WHOLESALE INDUSTRIAL PRICES, HEAVY INDUSTRY (DEFLATED)	1970=1	TRAN	3
PIMF70	125	INDEX OF WHOLESALE INDUSTRIAL PRICES LIGHT AND FOOD INDUSTRY (DEFLATED)	1970=1	TRAN	3
PIH9	298	WORLD MARKET PRICES OF MANUFACTURED GOODS	1963=10	UN	3
PIH9	310	UNIT VALUE PRICE OF FARMCA	1963=10	HEMETT	3
PIH9	120	CONSUMPTION PRICE, NON-FOOD (FARM PRICE)	1970=1	TRAN	3
PIH9	124	CONSUMPTION PRICE, TOTAL (FROM P1970F)	1970=1	NKH	3
PIH9	212	OFFICIAL EXCHANGE RATE OF THE RUBLE IN DOLLARS	NKH	NKH	3
PIH9	195	WORLD MARKET PRICES OF PRIMARY PRODUCTS	1963=10	UN	3
PIUGS9	514	UNIT VALUE PRICES OF SUGAR IMPORTS FROM EUHA	1963=10	OPR	3
PIUGS9	516	WORLD SUGAR PRICES	1963=10	UN	3
PIH9	518	SOVIET TRADE WITH WORLD, IMPORTS, OFFICIAL PRICE INDEX	1970	0, V. TORG	3
PIH9	194	PRICE OF TOTAL WORLD IMPORTS	1963=10	UN	3
PIH9	309	SOVIET TRADE WITH WORLD, EXPORTS, OFFICIAL PRICE INDEX	1970	0, V. TORG	3

DOCUMENTATION

STATISTICS LABEL	NAME DESCRIPTION	UNITS	SOURCE	PRECISION
PUMA	443 MATERIAL INPUTS DEFATOR AGRICULTURE	1970=1.0	GULL76	4
PUMC	442 MATERIAL INPUTS DEFATOR CONSTRUCTION	1970=1.0	GULL76	4
PUCI	445 MATERIAL INPUTS DEFATOR PETROCHEMICALS	1970=1.0	GULL76	4
PUCM	450 MATERIAL INPUTS DEFATOR CONSTRUCTION MATERIALS	1970=1.0	GULL76	4
PUCP	451 MATERIAL INPUTS DEFATOR COAL PRODUCTS	1970=1.0	GULL76	4
PUEP	453 MATERIAL INPUTS DEFATOR ELECTROENERGY	1970=1.0	GULL76	4
PUPF	456 MATERIAL INPUTS DEFATOR FOREST PRODUCTS	1970=1.0	GULL76	4
PUMH	459 MATERIAL INPUTS DEFATOR MACHINE BUILDING	1970=1.0	GULL76	4
PUMI	450 MATERIAL INPUTS DEFATOR METALLURGY	1970=1.0	GULL76	4
PUNC	441 MATERIAL INPUTS DEFATOR IND. NEC	1970=1.0	GULL76	4
PUBB	446 MATERIAL INPUTS DEFATOR OTHER BRANCHES	1970=1.0	GULL76	4
PUPA	437 MATERIAL INPUTS DEFATOR PATH	1970=1.0	GULL76	4
PUPF	440 MATERIAL INPUTS DEFATOR PROCESSED FOODS	1970=1.0	GULL76	4
PUPP	432 MATERIAL INPUTS DEFATOR PETROLEUM PRODUCTS	1970=1.0	GULL76	4
PUSG	459 MATERIAL INPUTS DEFATOR SOFT GOODS	1970=1.0	GULL76	4
PUTC	444 MATERIAL INPUTS DEFATOR TRANSPORT & COMMUNICATION	1970=1.0	GULL76	4
PUDI	445 MATERIAL INPUTS DEFATOR TRADE & DISTRIBUTION	1970=1.0	GULL76	4
PXCON9	127 PRICE DEFATOR, CONSTRUCTION ACTIVITY	1972*	MARKHU	3
PS94	213 IMPORTS, PRICE DEFATOR, MANUFACTURED GOODS	195	0.0 MESE	3
P71GE9	422 EXPORT PRICE INDEX GERMANY SITE 7,1, NUNELIC MACHINERY	1970=1	NBTH	3
QFIN	39b DUMMY, =1 IN 1969 AND 1973	NONE	NONE	3
QFYP	23 FIVE-YEAR-PLAN CYCLE (1954=57,62=64,69=71,74=76, ETC.)	NONE	DC	3
QLIM	292 DUMMY TIME TREND FOR TECHNOLOGY CHANGE, 1975=1	NONE	DIG	3
QLT28	161 LOG TIME TREND 1928=0	NONE	TRAN	3
QPL5	203 FIVE YEAR PLAN DUMMY (50=57,63=66,69=71,74=76)	NONE	D-G	3
QPH67	253 PRICE REFORM DUMMY FOR 1967=68	NONE	DIG	3
QSH65	201 DUMMY VARIABLE FOR 1954=1964 (PRIVATE AGRICULTURAL EMPLOYMENT)	NONE	C-H	3
QSH67	252 PRICE REFORM DUMMY BEFORE 1967=1, 1967=5, AFTER 1967=0	NONE	NONE	3
QSH68	222 SHIFT VARIABLE FOR 1968 ON =1	NONE	D-G	3
QSH71	421 DUMMY, =1 THRU 1970 =0 AFTER 1970	NONE	NONE	3
QSH72	397 DUMMY, =1 THRU 1971 =0 AFTER 1971	NONE	NONE	3
QT50	160 TIME VARIABLE WITH 1950=1 AND 1971=24	NONE	C-H	3
QRIFF	226 DUMMY VARIABLE FOR 1967=1969 (IMAGE REFORM)	NONE	NONE	3
QUS90	195 DUMMY, SCALED BY VOLUME OF EMACMS, 64=65=1,69=70=1,8,0 OTHERWISE	NONE	ONE	1
QUS959	249 DUMMY VARIABLE FOR 1958=59	NONE	NONE	3
QUS960	247 DUMMY VARIABLE FOR 1958=60	NONE	NONE	3
Q5861	242 DUMMY VARIABLE FOR 1958=61	NONE	NONE	3
Q59	248 DUMMY VARIABLE FOR 1959	NONE	NONE	3
Q59b3	464 DUMMY VARIABLE FOR 1957=1963	NONE	NONE	3
Q60b1	465 DUMMY VARIABLE FOR 1960=1961	NONE	NONE	3
Q60b4	229 DUMMY VARIABLE FOR 1960=1964	NONE	NONE	3
Q61	216 DUMMY VARIABLE FOR 1961	NONE	NONE	3
Q61b2	217 DUMMY VARIABLE FOR 1961=62	NONE	NONE	3
Q61b4	199 DUMMY VARIABLE FOR 1961=64	NONE	NONE	3
Q61b5	246 DUMMY VARIABLE FOR 1961=65	NONE	NONE	3
QH2	207 DUMMY VARIABLE FOR 1962	NONE	NONE	3
Q62b3	200 DUMMY VARIABLE FOR 1962=62	NONE	NONE	3
Q62b5	355 DUMMY VARIABLE FOR 1962=64	NONE	NONE	3
Q63	208 DUMMY VARIABLE FOR 1963	NONE	NONE	3
Q63b4	196 DUMMY VARIABLE FOR 1963=64	NONE	NONE	3

DOCUMENTATION

SERIES LABEL	VAR#	DESCRIPTION	UNITS	SOURCE	PRECISION
06368	243	DUMMY VARIABLE FOR 1963-66	NONE	NONE	3
06405	336	DUMMY VARIABLE FOR 1964-65	NONE	NONE	3
06466	332	DUMMY VARIABLE FOR 1964-66	NONE	NONE	3
06467	250	DUMMY VARIABLE FOR 1964-67	NONE	NONE	3
065	204	DUMMY VARIABLE FOR 1965	NONE	NONE	3
06560	339	DUMMY VARIABLE FOR 1965-66	NONE	NONE	3
06567	214	DUMMY VARIABLE FOR 1965-1967	NONE	NONE	3
066	215	DUMMY VARIABLE FOR 1966	NONE	NONE	3
06668	219	DUMMY VARIABLE FOR 1966-1968	NONE	NONE	3
06669	400	DUMMY VARIABLE FOR 1966-1969	NONE	NONE	3
06672	398	DUMMY VARIABLE FOR 1966-1972	NONE	NONE	3
067	225	DUMMY VARIABLE FOR 1967	NONE	NONE	3
06768	221	DUMMY VARIABLE FOR 1967-68	NONE	NONE	3
068	205	DUMMY VARIABLE FOR 1968- INDUSTRY RAGT	NONE	TRAN	3
06869	223	DUMMY VARIABLE FOR 1968-69	NONE	NONE	3
06870	197	DUMMY VARIABLE FOR 1968-70	NONE	NONE	3
069	206	DUMMY VARIABLE FOR 1969	NONE	NONE	3
069UN	202	DUMMY VARIABLE FOR 1969 UN	NONE	NONE	3
070	209	DUMMY VARIABLE FOR 1970	NONE	NONE	3
07175	349	DUMMY VARIABLE FOR 1971-1975	NONE	ONE	3
073	409	DUMMY FOR 1973	NONE	NONE	3
074	395	DUMMY VARIABLE FOR 1974	NONE	NONE	3
RGXAFQ	374	HALTO GVO/X 1 AGRICULTURE/FORESTRY	GDG	GDG	3
RGXCGQ	373	HALTO GVO/X 1 CONSTRUCTION	GDG	GDG	3
RGXCHQ	365	HALTO GVO/X 1 CHEMICALS & PETROCHEMICALS	GDG	GDG	3
RGXCH9	369	HALTO GVO/X 1 CONSTRUCTION MATERIALS	GDG	GDG	3
RGXCP9	362	HALTO GVO/X 1 COAL PRODUCTS	GDG	GDG	3
RGXEP9	364	HALTO GVO/X 1 ELECTRIC ENERGY	GDG	GDG	3
RGXPQ9	367	HALTO GVO/X 1 FOREST PRODUCTS (INCL. PAPER)	GDG	GDG	3
RGXMH9	365	HALTO GVO/X 1 MACHINE BUILDING	GDG	GDG	3
RGXME9	361	HALTO GVO/X 1 METALLURGY	GDG	GDG	3
RGXNC9	372	HALTO GVO/X 1 IND. NEC.	GDG	GDG	3
RGXUH9	377	HALTO GVO/X 1 OTHER BRANCHES	GDG	GDG	3
RGXPB9	368	HALTO GVO/X 1 PAPER AND PAPERBOARD	GDG	GDG	3
RGXPFF9	371	HALTO GVO/X 1 PROCESSED FOODS	GDG	GDG	3
RGXPV9	363	HALTO GVO/X 1 PETROLEUM PRODUCTS	GDG	GDG	3
RGXSG9	370	HALTO GVO/X 1 SOFT GOODS	GDG	GDG	3
RGXTC9	375	HALTO GVO/X 1 TRANSPORT/COMMUNICATIONS	GDG	GDG	3
RGXTD9	376	HALTO GVO/X 1 DOMESTIC TRADE	GDG	GDG	3
RTOP9	245	TAX RATE PROFITS	NONE	NONE	3
RITD9	218	DEVIATIONS FROM MEAN OF INNUOVER TAX RATE (SMOOTHED)	NONE	TRAN	3
RITU9	220	TAX RATE, ADJUSTMENT, OTHER SOCIAL SECTOR	NONE	NONE	3
RGVVA9	228	RATIO VALUE ADDED(GDP, PRICES) / GNP	1965*	MKH02	3
SAI9	100	INDEX OF AGRICULTURAL INPUTS, SOWN AREA	1965*	JEC76	3
TDPA	139	REVENUES, DEDUCTIONS FROM PROFIT, STATE ENTERPRISES	0, CUR. RUBLES	PRANDA	3
TDUTS9	406	THAUE UNION AND PARTY DUES	0, CUR. RUBLES	PRANDA	3
TRNSP9	407	INSURANCE PREMIUMS	0, CUR. RUBLES	PRANDA	3
TRUSS*	141	REVENUES, OTHER SOCIAL SECTORS	0, CUR. RUBLES	PRANDA	3
TP*	144	TOTAL STATE DEDUCTIONS (1973 FIGURES)	0, CUR. RUBLES	PRANDA	3
TPA*9	251	ADJUSTMENT FOR LOCAL TAXES, ADMISSION FEES, AND LOTTERIES	0, CUR. RUBLES	PRANDA	3

DOCUMENTATION

SERIES LABEL	NAME DESCRIPTION	DOCUMENTATION	UNITS	SOURCE	PRECISION
TOP*	143 REVENUES, POPULATION (INCOME TAXES, STATE BONDS, LOTTERIES ETC)		B RUBL	NKH02	1
TR*	145 STATE BUDGET, TOTAL REVENUES (CURRENT RUBLES)		B RUBL	NKH02	1
TSO*	142 REVENUES, SOCIAL INSURANCE DEDUCTIONS		B RUBL	NKH02	1
TT*	140 REVENUES, TURNOVER TAX		B RUBL	NKH02	1
UAF	391 MATERIAL INPUTS! AGRICULTURE		B, 1973 RUBLES	GUIL176	1
UGC	390 MATERIAL INPUTS! CONSTRUCTION		B, 1970 RUBLES	GUIL176	1
UCH	383 MATERIAL INPUTS! CHEMICALS & PETROCHEMICALS		B, 1970 RUBLES	GUIL176	1
UCM	386 MATERIAL INPUTS! CONSTRUCTION MATERIALS		B, 1970 RUBLES	GUIL176	1
UCP	379 MATERIAL INPUTS! COAL PRODUCTS		B, 1970 RUBLES	GUIL176	1
UEP	381 MATERIAL INPUTS! ELECTRIC ENERGY		B, 1970 RUBLES	GUIL176	1
UFP	384 MATERIAL INPUTS! FOREST PRODUCTS		B, 1970 RUBLES	GUIL176	1
UMB	382 MATERIAL INPUTS! MACHINE-BLDG. & METAL-MRKG.		B, 1970 RUBLES	GUIL176	1
UHE	378 MATERIAL INPUTS! METALLURGY		B, 1970 RUBLES	GUIL176	1
UNC	389 MATERIAL INPUTS! IND. NEC		B, 1970 RUBLES	GUIL176	1
UOB	394 MATERIAL INPUTS! OTHER BRANCHES		B, 1970 RUBLES	GUIL176	1
UFA	385 MATERIAL INPUTS! PAPER		B, 1970 RUBLES	GUIL176	1
UPF	388 MATERIAL INPUTS! PROCESSED FOODS		B, 1970 RUBLES	GUIL176	1
UPP	380 MATERIAL INPUTS! PETROLEUM PRODUCTS		B, 1970 RUBLES	GUIL176	1
USG	387 MATERIAL INPUTS! SOFT GOODS		B, 1970 RUBLES	GUIL176	1
UTC	392 MATERIAL INPUTS! TRANSPORT & COMMUNICATION		B, 1970 RUBLES	GUIL176	1
UTD	393 MATERIAL INPUTS! TRADE & DISTRIBUTION		B, 1970 RUBLES	GUIL176	1
WAGA	460 AVERAGE WAGE-STATE AGRICULTURE		RUBLES	NARKH02	3
WAGCH	452 AVERAGE WAGE-CHMICALS		RUBLES	VIEMP, WAGE FUND	3
WAGCH	455 AVERAGE WAGE-CONST MATERIA		RUBLES	VIEMP, WAGE FUND	3
WAGCOM	459 AVERAGE WAGE-CONSTRUCTION		RUBLES	NARKH02	3
WAGCP	468 AVERAGE WAGE-COAL PRODUCTS		RUBLES	VIEMP, WAGE FUND	3
WAGLP	450 AVERAGE WAGE-ELECTRIC POWER		RUBLES	VIEMP, WAGE FUND	3
WAGT	463 AVERAGE WAGE-ECONOMY		RUBLES	NARKH02	3
WAGFM	447 AVERAGE WAGE-FERROUS METALLURGY		RUBLES	VIEMP, WAGE FUND	3
WAGFP	453 AVERAGE WAGE-FOREST PRODUCTS		RUBLES	VIEMP, WAGE FUND	3
WAGL	458 AVERAGE WAGE-INDUSTRY		RUBLES	NARKH02	3
WAGMA	451 AVERAGE WAGE-IRMM		RUBLES	VIEMP, WAGE FUND	3
WAGPF	457 AVERAGE WAGE-PROCESSED FOOD		RUBLES	VIEMP, WAGE FUND	3
WAGPG	449 AVERAGE WAGE-PETROLEUM & GAS		RUBLES	1=0 DATA INT	3
WAGP	450 AVERAGE WAGE-PAPER		RUBLES	VIEMP, WAGE FUND	3
WAGSC	458 AVERAGE WAGE-SOFT GOODS		RUBLES	VIEMP, WAGE FUND	3
WAGS	461 AVERAGE WAGE-TRANS & COMM		RUBLES	NARKH02	3
WAGD	462 AVERAGE WAGE-TRADE & DIST		RUBLES	NARKH02	3
WAK*	403 AVERAGE WAGE-COLLECTIVE FARMS		CUR, RUBLES	JEC7b-WHAN	1
WAS*	106 AVERAGE WAGE, STATE FARMS		CUR, RUBLES/YR.	NKH02	1
WC*	107 WAGES, CONSTRUCTION		RUBL	70JECB2	1
WOF*	405 AVERAGE WAGE, MILITARY MANPOWER		CUR, RUBLES/YR.	JEC7b-WHAN	1
WGS*	110 AVERAGE WAGE, GOVERNMENT & SERVICES		CUR, RUBL	NKH	1
WI*	105 WAGES, INDUSTRY		RUBL	70JECB2	1
WS*	109 WAGES, DOMESTIC TRADE AND DISTRIBUTION		RUBL	70JECB2	1
WTC*	108 ANNUAL WAGE RATE, TRANSPORT & COMMUNICATION		CUR, RUBL	NKH	1
WIDQ	297 TOTAL IMPORTS OF THE DEV. MNT. ST		1963-10	UN H, B	3
WLOC9	302 TOTAL IMPORTS OF THE LOC-S		1963-10	UN M, BU	3
WTQ	305 TOTAL IMPORTS OF THE WORLD		1963-10	UN M, BU	3
WACH	412 NORMAL CROP OUTPUT		0,1970 RUBLES	0,1976-INTWHP	1

DOCUMENTATION

SERIES LABEL	VAR#	DESCRIPTION	UNITS	SOURCE	PRECISION
XACTUAL9	103	VALUE OF FEED FED TO LIVESTOCK	M1968	SRI	3
XAGIN	H9	NORMAL AGRICULTURAL OUTPUT	B,1970 RUBLES	DER76-INTERP	3
XAG170	88	TOTAL NET FARM OUTPUT	B,1970 RUBLES	SAI0R 062475	3
XAH	418	NORMAL OUTPUT, MEAT PRODUCTION		DER76-TRAN	3
XAN	415	NORMAL OUTPUT, ANIMAL PRODUCTS TOTAL		DER76-TRAN	3
XAN1M70	414	GROSS LIVESTOCK PRODUCTION, 1970 PRICES	B,1970 RUBLES	SAI0R 062475	3
XANP70	411	VALUE OF TOTAL CROPS, 1970 PRICES	B,1970 RUBLES	SAI0R 062475	3
XANP70	90	CONSTRUCTION ACTIVITY	B RUB	NARKHOZ	3
XDTH	92	INDEX OF TRADE ACTIVITY	1970-100	DER75	3
XGOLD4	198	GOLD PRODUCTION	TONS	DER75	3
XGR	337	GRAIN PRODUCTION	M TONS	DIAMOND	3
XGCMQ	293	GRAIN PRODUCTION IN THE EUROPEAN CMEA	M TONS	FAO	3
XGRDLC9	303	GRAIN PRODUCTION IN THE LDC-9	M TONS	DIAMOND	3
XGAPK	295	SECOND PEAK GRAIN OUTPUT	M TONS	DIAMOND	3
XGAT4	416	NORMAL GRAIN OUTPUT	M METRIC TONS	DER76-INTERP	3
XGAT9	413	SUSSIT GRAIN PRODUCTION, GROSS GRAIN AGGREGATE	M METRIC TONS	SAI0R 062475	3
XGAT9	300	GRAIN PRODUCTION IN WESTERN EUROPE	M TONS	FAO	3
XGAT9	357	INDEX OF AGRICULTURE/FORESTRY GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	356	INDEX OF CHEMICALS AND PETROCHEMICALS GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	349	INDEX OF CONSTRUCTION MATERIALS GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	352	INDEX OF CONSTRUCTION MATERIALS GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	345	INDEX OF COAL PRODUCTS GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	347	INDEX OF ELECTROENERGY GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	350	INDEX OF FOREST PRODUCTS GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	348	INDEX OF MACHINE BUILDING GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	344	INDEX OF METALLURGY GVO IN CURRENT PRICES	1966=100	GNG	3
XGAT9	355	INDEX OF IND. NEC GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	360	INDEX OF OTHER BRANCHES GVO IN CURRENT PRICES	1966=100	GNG	3
XGAT9	351	INDEX OF PAPER GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	354	INDEX OF PROCESSED FLUIDS GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	346	INDEX OF PETROLEUM PRODUCTS GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	353	INDEX OF SOFT GOODS GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	358	INDEX OF TRANSPORT/COMMUNICATIONS GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	359	INDEX OF DOMESTIC TRADE GVO IN CURRENT PRICES	1966=100	GOG	3
XGAT9	82	CHEMICALS	1970=10	DER74	3
XICM	85	CONSTRUCTION MATERIALS	1970=10	DER74	3
XICP	78	COAL PRODUCTS	1970=10	DER74	3
XIEP	77	ELECTRIC POWER	1970=10	DER74	3
XIFM	80	FERROUS METALS	1970=10	DER74	3
XIFP	84	FOREST PRODUCTS	1970=10	DER74	3
XIFP	85	MACHINERY	1970=1	DER74	3
XINP	81	NONFERROUS METALS	1970=10	DER74	3
XIPF	188	PAPER AND PAPERBOARD	1970=10	DER74	3
XIPF	87	PROCESSED FOODS	1970=10	DER74	3
XIPP	79	PETROLEUM PRODUCTS & GAS	1970=10	DER74	3
XISL	86	SOFT GOODS	1970=10	DER74	3
XIT	76	TOTAL INDUSTRIAL PRODUCTION	1970=10	DER74	3
XMEAT70	417	VALUE OF MEAT PRODUCED, 1970 PRICES	B,1970 RUBLES	SAI0R 062475	3
XSHWT0	93	INDEX OF SERVICES, 1970 WEIGHTS	1970=100	DER74	3
XSUG9	315	SUGAR PRODUCTION OF CUBA	1000001	FAO	3

DOCUMENTATION

SERIES LABEL	VAR# DESCRIPTION	UNITS	STRUCTURE	PRECISION
X174	91 TRANS-COAH INDX, 1970 WEIGHTS, RUBLE SLARIES FOR COAH	1970*100	0,G	1
YCHTA,q	192 NET MATERIAL PRODUCT IN CONSTANT PRICES, CHEA	1963*10	UNSTRUCT	1
ZDT*	117 TOTAL AMORTIZATION FUNDS, NATIONAL ECONOMY	0,CUR,H	MM	0
ZDT0	116 REAL DISPOSABLE HOUSEHOLD INCOME	0,1970 RUBLES	TRAN	1
ZFPG,q	119 PLANNED GROSS PROFITS, NATIONAL ECONOMY	0,RUB	RADDA	0
ZGM*	111 GROSS EARNINGS, MAGE AND SALARY WORKERS	0,CUR, RUBLES	JECB	1
ZIkb0	115 AGRICULTURAL INCOME IN KIND	0,1960 RUBLES	TRAN	1
ZMPA*	181 MILITARY PAY AND ALLOWANCES	0,CUR, RUBLES	JECB	1
ZPCP,q	182 PROFITS DISTRIBUTED TO COOPERATIVE MEMBERS	0,CUR, RUBLES	JECB	1
ZPG*	118 ACTUAL GROSS PROFITS, NATIONAL ECONOMY	0,RUBL	MMHZ	0
ZH2*	427 RESIDUAL INCOME + SOMOD II	0,CUR,X	TRAN	0
ZSAG*	113 NET HOUSEHOLD INCOME FROM AGRICULTURAL SALES	0,CUR, RUBLES	JECB	1
ZTD*	180 DISPOSABLE HOUSEHOLD MONEY INCOME	0,CUR, RUBLES	JECB-IRAN	1
ZTC*	119 GROSS HOUSEHOLD MONEY INCOME	0,CUR, RUBLES	JECB-IRAN	1
ZMK*	112 WAGE PAYMENTS TO COLLECTIVE FARM MEMBERS	0,CUR, RUBLES	JECB	1

N. POPULATION AND EMPLOYMENT(N.1) NPOPU Urban Population

$$\frac{100 \cdot NPOPU}{NPOP9} = - 91.8791 + 38.8772 QLT28$$

(13.73) (23.50)
(54.91)

$$+ 2.44336 \left(\frac{IHS}{IHS_{-1}} - 1 \right)_{-2}$$

$$+ 2.08339 \left\{ WI^*/(WAK^* + 1000 \cdot ZSAG^*/NAKOL) \right\}_{-2}$$

(5.82)

$$- 3.67684 \left\{ \left(\frac{XAGT70_{-1}}{XAGTN_{-1}} + \frac{XAGT70_{-2}}{XAGTN_{-2}} - 2 \right) / 2 \right\}$$

$\bar{R}^2 = 0.998$ S.E. = 0.17 D.W. = 1.85
Sample Period 1960-1974

(N.2) NPOPR Rural Population

$$NPOPR \equiv NPOP9 - NPOPU$$

(N.3) NMNA Nonagricultural Employment

$$\frac{.1 * NMNA}{(NPOPU_{-1} + NPOPU)/2} = 23.11108 QLT28 (1. - Q69ON)$$

(12.27)
(56.32)

$$+ 87.085 Q69ON + 18.17 \left(\frac{NPOPAB9 + NPOPAB9}{NPOP9 + NPOP9_{-1}} \right)_{-1}$$

(13.01) (1.31)

$$+ 8.79513 \left(\frac{WI^*/PRC}{WI^*_{-1}/PRC_{-1}} \right)$$

(1.41)

(N.3) NMNA Nonagricultural Employment, Continued

$$- 45.94724 \left\{ \frac{(NPOP_{U-1} + NPOP_{U-2})}{(NPOP_{U-1} + NPOP_{U-2}) + (NPOP_{U-2} + NPOP_{U-3})} \right\}$$

$$R^2 = 0.994 \quad S.E. = 0.24 \quad D.W. = 1.46$$

Sample Period 1959-1974

(N.4) NMI Industrial Employment

$$\frac{100 \cdot NMI}{(NMNA)} = 0.87296 \left(\frac{100 \cdot NMI}{NMNA} \right)_{-1} - 0.04442 \left(\frac{100 \cdot NMC}{NMNA} \right)_{-1}$$

(39.994)

$$+ 0.37857 \left(\frac{100 \cdot NMTC}{NMNA} \right)_{-1}$$

$$- 1.98480 \left(\frac{100 \cdot NMS}{NMNA} \right)_{-1} + 0.70431 \left(\frac{100 \cdot NMG}{NMNA} \right)_{-1}$$

$$- 1.78871 \left(\frac{INA}{INA-1} - 1 \right)$$

$$R^2 = 0.997 \quad S.E. = 0.097$$

Sample Period 1957-1974

$$D.W. = 2.08 \quad D. = 0.17$$

(N.5) NMC Construction Employment

$$\frac{100 \cdot NMC}{NMNA} = 0.09038 \left(\frac{100 \cdot NMI}{NMNA} \right)_{-1} + 0.73745 \left(\frac{100 \cdot NMC}{NMNA} \right)_{-1}$$

(11.028)

$$- 0.19102 \left(\frac{100 \cdot NMTC}{NMNA} \right)_{-1} + 1.63650 \left(\frac{100 \cdot NMS}{NMNA} \right)_{-1}$$

$$- 0.50138 \left(\frac{100 \cdot NMG}{NMNA} \right)_{-1} + 3.21306 \left(\frac{INA}{INA-1} - 1 \right)$$

(N.5) NMC Construction Employment (Continued)

$R^2 = 0.909$ S.E. = 0.138 D.W. = 2.21
 Sample Period 1957-1974 D. = 0.57

(N.6) NMTC Transport and Communications Employment

$$\begin{aligned} \frac{100 \cdot NMTC}{NMNA} &= 0.02306 \left(\frac{100 \cdot NMI}{NMNA} \right)_{-1} + 0.03637 \left(\frac{100 \cdot NMC}{NMNA} \right)_{-1} \\ &\quad (0.88) \quad (0.57) \\ &+ 0.90413 \left(\frac{100 \cdot NMTC}{NMNA} \right)_{-1} + 1.01435 \left(\frac{100 \cdot NMS}{NMNA} \right)_{-1} \\ &\quad (10.50) \quad (3.15) \\ &- 0.35525 \left(\frac{100 \cdot NMG}{NMNA} \right)_{-1} + 1.03789 \left(\frac{INA}{INA} \right)_{-1} \\ &\quad (3.39) \quad (2.32) \end{aligned}$$

$R^2 = 0.989$ S.E. = 0.060 D.W. = 2.01
 Sample Period 1957-1974 D. = 0.02

(N.7) NMS Domestic Trade Employment

$$\begin{aligned} \frac{100 \cdot NMS}{NMNA} &= 0.03509 \left(\frac{100 \cdot NMI}{NMNA} \right)_{-1} + 0.07217 \left(\frac{100 \cdot NMC}{NMNA} \right)_{-1} \\ &\quad (1.98) \quad (1.67) \\ &- 0.13088 \left(\frac{100 \cdot NMTC}{NMNA} \right)_{-1} + 0.74102 \left(\frac{100 \cdot NMS}{NMNA} \right)_{-1} \\ &\quad (2.24) \quad (3.40) \\ &+ 0.06892 \left(\frac{100 \cdot NMG}{NMNA} \right)_{-1} - 0.69642 \left(\frac{INA}{INA} \right)_{-1} \\ &\quad (0.97) \quad (2.30) \end{aligned}$$

$R^2 = 0.993$ S.E. = 0.041 D.W. = 1.61
 Sample Period 1957-1974 D. = 2.19

(N.8) NMG Services Employment

$$\frac{100 \cdot NMG}{NMNA} = 0.00386 \left(\frac{100 \cdot NMI}{NMNA} \right)_{-1} + 0.12899 \left(\frac{100 \cdot NMC}{NMNA} \right)_{-1}$$

(0.14) (1.86)

(26.370)

$$- 0.01908 \left(\frac{100 \cdot NMTC}{NMNA} \right)_{-1} - 0.22907 \left(\frac{100 \cdot NMS}{NMNA} \right)_{-1}$$

(0.20) (0.65)

$$+ 1.04081 \left(\frac{100 \cdot NMG}{NMNA} \right)_{-1} - 2.44017 \left(\frac{INA}{INA} \right)_{-1}$$

(9.10) (5.00)

$R^2 = 0.998$ S.E. = 0.066 D.W. = 2.74
 Sample Period 1957-1974 D. = 1.80

(N.9) NMF Forestry Employment

$$\frac{100 \cdot NMF}{NMNA} = 0.00904 \left(\frac{100 \cdot NMI}{NMNA} \right)_{-1} - 0.06383 \left(\frac{100 \cdot NMC}{NMNA} \right)_{-1}$$

(0.95) (2.78)

(0.600)

$$+ 0.09507 \left(\frac{100 \cdot NMTC}{NMNA} \right)_{-1} + 0.22944 \left(\frac{100 \cdot NMS}{NMNA} \right)_{-1}$$

(3.06) (1.97)

$$- 0.08646 \left(\frac{100 \cdot NMG}{NMNA} \right)_{-1} + 0.16292 \left(\frac{INA}{INA} \right)_{-1}$$

(2.28) (1.01)

$R^2 = 0.949$ S.E. = 0.022 D.W. = 1.17
 Sample Period 1957-1974

(N.10) NMO Other Branch Employment

$$\frac{100 \cdot NMO}{NMNA} = -0.02437 \left(\frac{100 \cdot NMI}{NMNA} \right)_{-1} + 0.24879 \left(\frac{100 \cdot NMC}{NMNA} \right)_{-1}$$

(0.53) (2.26)

(1.027)

$$-0.23239 \left(\frac{100 \cdot NMTC}{NMNA} \right)_{-1} - 1.49635 \left(\frac{100 \cdot NMS}{NMNA} \right)_{-1}$$

(1.56) (2.70)

$$+ 0.58977 \left(\frac{100 \cdot NMG}{NMNA} \right)_{-1} - 1.00696 \left(\frac{INA}{INA} \right)_{-1}$$

(3.25) (1.30)

$R^2 = 0.906$ S.E. = 0.104 D.W. = 1.19
 Sample Period 1957-1974

(N.11) NASOV Annual Employment, State Farms

$$\frac{200 \cdot NASOV}{NPOPR+NPOPR} = -30.91035 + 10.59870 QLT28$$

(17.01) (21.38)

(7.880)

$$-3.01564 \left(\frac{XAGT70}{XAGTN} \right)_{-1} + \left(\frac{XAGT70}{XAGTN} \right)_{-2} / 2.$$

(2.21) (1.47)

$R^2 = 0.970$ S.E. = 0.256 D.W. = 1.70
 Sample Period = 1958-1974

(N.12) NAKOL Annual Employment, Collective Farms

$$\frac{200 \cdot NAKOL}{NPOPR+NPOPR} = 15.23652 - 19.17145 QSH72_{-1} \quad (QLT28-3.807)$$

(65.62) (11.74)

(17.825)

$$-0.55980 QSH65 + 4.29917 \left(\frac{XAGT70}{XAGTN} \right)_{-1.}$$

(1.15) (1.47)

$$+ 8.61402 \left(\frac{XAGT70}{XAGTN} \right)_{-1} + \left(\frac{XAGT70}{XAGTN} \right)_{-2} / 2.$$

(2.74) (1.47)

(N.12) NAKOL Annual Employment, Collective Farms (Continued)

$$R^2 = 0.948 \quad S.E. = 0.585 \quad D.W. = 1.10$$

Sample Period 1958-1974

(N.13) NAPRV Annual Employment, Private Agriculture

$$\frac{200 \cdot NAPRV}{NPOPR+NPOPR_{-1}} = 10.71520 - 2.18579 QSH72_{-1} \quad (QLP28-3.807)$$

(161.35) (4.67)
(10.684)

$$- 0.98828 QSH65 + 1.55859 \left(\frac{XAGT70}{XAGTN} - 1 \right)$$

(7.08) (1.86)

$$R^2 = 0.887 \quad S.E. = 0.168 \quad D.W. = 1.63$$

Sample Period 1958-1974

(N.14) NASK Annual Employment, State and Collective Farms

$$NASK \equiv NASOV + NAKOL$$

(N.15) NAT Total Agricultural Employment

$$NAT \equiv NASK + NAPRV$$

(N.16) NMIEP Employment, Electroenergy

$$\frac{100 \cdot NMIEP}{NMI} = - 10.09184 + 0.04427 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1}$$

(2.83) (1.14)
(1.896)

$$+ 1.08600 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} + 0.02812 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1}$$

(5.18) (0.53)

$$+ 0.58897 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} - 0.10171 \left(\frac{INA}{INA} \right)_{-1}$$

(1.15) (0.29)

$$+ 1.35418 QLT28$$

(1.23)

(N.16) NMIEP Employment, Electroenergy (Continued)

$R^2 = 0.974$ S.E. = 0.034 D.W. = 2.02
 Sample Period 1957-1974

(N.17) NMICP Employment, Coal Products

$$\begin{aligned}
 \frac{100 \cdot NMICP}{NMI} &= 24.65546 + 0.06046 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 &\quad + 0.06757 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} + 0.024710 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} \\
 &\quad + 3.19908 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} + 1.82804 \left(\frac{INA}{INA} \right)_{-1} \\
 &\quad - 7.06813 QLT28 \\
 &\quad \quad (3.46)
 \end{aligned}$$

$R^2 = 0.997$ S.E. = 0.063 D.W. = 2.31
 Sample Period 1957-1974

(N.18) NMIPP Employment, Petroleum Products

$$\begin{aligned}
 \frac{100 \cdot NMIPP}{NMI} &= 1.48911 + 0.01470 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 &\quad + 0.01194 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} - 0.00157 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} \\
 &\quad + 0.24956 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} + 0.29014 \left(\frac{INA}{INA} \right)_{-1} \\
 &\quad - 0.39523 QLT28 \\
 &\quad \quad (1.19)
 \end{aligned}$$

$R^2 = 0.926$ S.E. = 0.010 D.W. = 2.94
 Sample Period 1957-1974 D. = 2.64

(N.19) NMIFM Employment, Ferrous Metallurgy

$$\begin{aligned}
 \frac{100 \cdot \text{NMIFM}}{\text{NMI}} &= 2.27949 + 0.01082 \left(\frac{100 \cdot \text{NMIMB}}{\text{NMI}} \right)_{-1} \\
 &\quad (0.81) \quad (0.35) \\
 (4.426) \quad &+ 0.84345 \left(\frac{100 \cdot \text{NMIFM}}{\text{NMI}} \right)_{-1} + 0.05374 \left(\frac{100 \cdot \text{NMICM}}{\text{NMI}} \right)_{-1} \\
 &- 0.38480 \left(\frac{100 \cdot \text{NMIPP}}{\text{NMI}} \right)_{-1} + 0.18517 \left(\frac{\text{INA}}{\text{INA}} \right)_{-1} \\
 &- 0.55554 \text{ QLT28} \\
 &\quad (0.64)
 \end{aligned}$$

$R^2 = 0.986$ S.E. = 0.027 D.W. = 2.01
 Sample Period 1957-1974 D. = 0.03

(N.20) NMINF Employment, Non Ferrous Metallurgy

$$\begin{aligned}
 \frac{100 \cdot \text{NMINF}}{\text{NMI}} &= 13.55024 + 0.09415 \left(\frac{100 \cdot \text{NMIMB}}{\text{NMI}} \right)_{-1} \\
 &\quad (8.42) \quad (5.37) \\
 (2.545) \quad &- 0.14900 \left(\frac{100 \cdot \text{NMIFM}}{\text{NMI}} \right)_{-1} + 0.00897 \left(\frac{100 \cdot \text{NMICM}}{\text{NMI}} \right)_{-1} \\
 &- 0.51352 \left(\frac{100 \cdot \text{NMIPP}}{\text{NMI}} \right)_{-1} - 0.49735 \left(\frac{\text{INA}}{\text{INA}} \right)_{-1} \\
 &- 3.62895 \text{ QLT28} \\
 &\quad (7.31)
 \end{aligned}$$

$R^2 = 0.994$ S.E. = 0.015 D.W. = 1.69
 Sample Period 1957-1974

(N.21) NMICH Employment, Chemical and Petrochemical

$$\begin{aligned}
 \frac{100 \cdot NMICH}{NMI} = & - 24.48975 + 0.07709 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 & (5.89) \quad (1.70) \\
 (4.367) \quad & + 2.16354 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} - 0.35113 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} \\
 & (8.86) \quad (5.69) \\
 & - 0.35861 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} + 0.19999 \left(\frac{INA}{INA_{-1}} \right)_{-1} \\
 & (0.60) \quad (0.49) \\
 & + 5.22978 QLT28 \\
 & (4.08)
 \end{aligned}$$

$R^2 = 0.998$ S.E. = 0.039 D.W. = 2.03
Sample Period 1957-1974

(N.22) NMIMB Employment, Machine-Building and Metal-Working

$$\begin{aligned}
 \frac{100 \cdot NMIMB}{NMI} = & - 5.39107 + 0.69292 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 & (0.28) \quad (3.26) \\
 (35.527) \quad & + 0.53933 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} - 0.09105 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} \\
 & (0.47) \quad (0.31) \\
 & - 8.73862 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} + 1.30840 \left(\frac{INA}{INA_{-1}} \right)_{-1} \\
 & (3.11) \quad (0.69) \\
 & + 6.08597 QLT28 \\
 & (1.01)
 \end{aligned}$$

$R^2 = 0.998$ S.E. = 0.185 D.W. = 1.98
Sample Period 1957-1974 D. = 0.10

(N.23) NMIFP Employment, Forest Products

$$\begin{aligned}
 \frac{100 \cdot \text{NMIFP}}{\text{NMI}} &= 74.54399 + 0.15354 \left(\frac{100 \cdot \text{NMIMB}}{\text{NMI}} \right)_{-1} \\
 &\quad (9.82) \quad (1.86) \\
 &- 2.45279 \left(\frac{100 \cdot \text{NMIFM}}{\text{NMI}} \right)_{-1} + 0.53978 \left(\frac{100 \cdot \text{NMICM}}{\text{NMI}} \right)_{-1} \\
 &\quad (5.50) \quad (4.79) \\
 &- 2.22294 \left(\frac{100 \cdot \text{NMIPP}}{\text{NMI}} \right)_{-1} + 1.17166 \left(\frac{\text{INA}}{\text{INA}} \right)_{-1} \\
 &\quad (2.04) \quad (1.58) \\
 &- 16.78932 \text{ QLT28} \\
 &\quad (7.17)
 \end{aligned}$$

$R^2 = 0.998$ S.E. = 0.072 D.W. = 1.95
Sample Period 1957-1974

(N.24) NMIPA Employment, Paper and Pulp

$$\begin{aligned}
 \frac{100 \cdot \text{NMIPA}}{\text{NMI}} &= -0.70658 - 0.00366 \left(\frac{100 \cdot \text{NMIMB}}{\text{NMI}} \right)_{-1} \\
 &\quad (0.58) \quad (0.28) \\
 &+ 0.11410 \left(\frac{100 \cdot \text{NMIFM}}{\text{NMI}} \right)_{-1} - 0.07953 \left(\frac{100 \cdot \text{NMICM}}{\text{NMI}} \right)_{-1} \\
 &\quad (1.59) \quad (4.38) \\
 &+ 0.38651 \left(\frac{100 \cdot \text{NMIPP}}{\text{NMI}} \right)_{-1} - 0.04584 \left(\frac{\text{INA}}{\text{INA}} \right)_{-1} \\
 &\quad (2.21) \quad (0.39) \\
 &+ 0.35829 \text{ QLT28} \\
 &\quad (0.95)
 \end{aligned}$$

$R^2 = 0.869$ S.E. = 0.012 D.W. = 2.27
Sample Period 1957-1974

(N.25) NMICM Employment, Construction Materials

$$\begin{aligned}
 \frac{100 \cdot NMICM}{NMI} &= 4.890314 - 0.01524 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 &\quad (0.53) \quad (0.15) \\
 (6.403) & \\
 &- 0.83764 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} + 0.83163 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} \\
 &\quad (1.56) \quad (6.11) \\
 &+ 2.69426 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} + 0.89869 \left(\frac{INA}{INA} \right)_{-1} \\
 &\quad (2.04) \quad (1.00) \\
 &- 0.51361 QLT28 \\
 &\quad (0.18)
 \end{aligned}$$

$R^2 = 0.902$ S.E. = 0.087 D.W. = 2.39
 Sample Period 1957-1974 D. = 1.01

(N.26) NMISG Employment, Soft Goods

$$\begin{aligned}
 \frac{100 \cdot NMISG}{NMI} &= 8.72831 - 0.37769 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 &\quad (0.52) \quad (2.07) \\
 (16.121) & \\
 &- 0.80490 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} - 0.18900 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} \\
 &\quad (0.82) \quad (0.76) \\
 &+ 8.61730 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} + 2.36205 \left(\frac{INA}{INA} \right)_{-1} \\
 &\quad (3.58) \quad (1.44) \\
 &+ 4.91710 QLT28 \\
 &\quad (0.95)
 \end{aligned}$$

$R^2 = 0.969$ S.E. = 0.159 D.W. = 1.95
 Sample Period 1957-1974

(N.27) NMIPF Employment, Processed Foods

$$\begin{aligned}
 \frac{100 \cdot NMIPF}{NMI} = & 2.16373 + 0.01298 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 (9.380) & \\
 & + 1.36013 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} - 0.26066 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} \\
 & + 3.00805 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} + 0.03012 \left(\frac{INA}{INA-1} \right)_{-1} \\
 & - 0.05106 QLT28 \\
 & (0.02)
 \end{aligned}$$

$R^2 = 0.966$ S.E. = 0.063 D.W. = 1.77
Sample Period 1957-1974

(N.28) NMINC Employment, Industry NCE (Residual Branch)

$$\begin{aligned}
 \frac{100 \cdot NMINC}{NMI} = & 8.30185 - 0.76564 \left(\frac{100 \cdot NMIMB}{NMI} \right)_{-1} \\
 (3.863) & \\
 & - 1.93307 \left(\frac{100 \cdot NMIFM}{NMI} \right)_{-1} - 0.51849 \left(\frac{100 \cdot NMICM}{NMI} \right)_{-1} \\
 & - 6.52880 \left(\frac{100 \cdot NMIPP}{NMI} \right)_{-1} - 7.63250 \left(\frac{INA}{INA-1} \right)_{-1} \\
 & + 11.08810 QLT28 \\
 & (1.08)
 \end{aligned}$$

$R^2 = 0.793$ S.E. = 0.314 D.W. = 2.08
Sample Period 1957-1974

(N.29) NIET Engineering - Technical Employees in Industry (End Year)

$$NIET - NIET_{-1} = 0.16841 \frac{NEIND9 + NEIND9_{-1} + NEIND9_{-2}}{3.} \\ (149.43)$$

$$- 159.08954 Q69ON \\ (4.68)$$

$$+ 154.93 \frac{2 \cdot (NIET_{-1} - NIET_{-2})}{\{ \frac{NEIND9_{-1} + NEIND9_{-2}}{2} \}} - 0.13548 \\ (0.68)$$

$$R^2 = 0.726 \quad S.E. = 32.39 \quad D.W. = 1.26 \\ \text{Sample Period 1960-1974}$$

(N.30) NTSPA Specialists Employed in Transport and Communications

$$NTSPA - NTSPA_{-1} = 0.48120 \frac{NETRA9_{-1} + NETRA9_{-2}}{2} \\ (46.57)$$

$$+ 43.69719 \frac{2 \cdot * (NTSPA_{-1} - NTSPA_{-2})}{\{ \frac{NETRA9_{-1} + NETRA9_{-2}}{2} \}} - 0.46308 \\ (3.11)$$

$$R^2 = 0.895 \quad S.E. = 5.00 \quad D.W. = 1.60 \\ \text{Sample Period 1960-1974}$$

I. Investment(a) Non-Agricultural Investment, Sector Equations(1.1a) IIN Capital Investment in Industry

$$\frac{IIN}{IIN_{-1}} - 1. = 0.05466 - 0.05963 (Q6567-3.*.0625) \\ (5.99) \quad (4.85) \\ (0.075)$$

$$- 0.03976 (QFIN-2.*.065) \\ (3.16)$$

$$+ 0.19254 GFI + 0.17444 GPG - 0.20077 GDF \\ (1.84) \quad (3.54) \quad (5.47)$$

$R^2 = 0.850$ S.E. = 0.016 D.W. = 2.25
Sample Period 1959-1974

Where:

$$GFI \equiv \frac{IFAJ^*/PII_{-1}}{IFAJ^*_{-1}/PII_{-2}} - 1.$$

$$GPG \equiv \frac{ZPG^*/PII_{-1}}{ZPG^*_{-1}/PII_{-2}} - 1.$$

$$GDF = \frac{BDN^*9/PIWH70}{BDN^*9_{-1}/PIWH70_{-1}} - 1.$$

(1.2a) ICRUB Capital Investment in Construction

$$\frac{ICRUB}{ICRUB_{-1}} - 1. = - 0.02885 QFYP - 0.2937 + 0.04733 QSH72 \\ (0.99) \quad (0.62) \quad (1.39) \\ (0.093) \\ + 0.29562 \frac{XAGT70}{XAGTN} - 1. + 1.73640 GINA \\ (1.18) \quad (2.71)$$

$R^2 = 0.666$ S.E. = 0.050 D.W. = 2.85
Sample Period 1961-1974

Where:

$$GINA \equiv \frac{INA}{INA_{-1}} - 1.$$

(I.3a) ITRUB Capital Investment in Transport and Communications

$$\begin{aligned} \frac{ITRUB}{ITRUB_{-1}} - 1. &= 0.10484 - 0.04073 QFYP - 0.08481 (Q6567-3.*.0625) \\ &\quad (8.43) \quad (2.88) \quad (4.28) \\ &\quad (0.092) \\ &\quad - 0.04235 (QFIN-2.*.0625) + 0.15933 GFT - 0.28087 GDF \\ &\quad (2.24) \quad (2.57) \quad (4.89) \end{aligned}$$

$R^2 = 0.814$ S.E. = 0.024 D.W. = 2.02
Sample Period 1959-1974

Where:

GDF defined above under (I.1a)

$$GFT = \frac{IFTR^{*9}/PIT_{-1}}{IFTR^{*9}_{-1}/PIT_{-2}}$$

(I.4a) IHS Capital Investment in Housing

$$\begin{aligned} \frac{IHS}{IHS_{-1}} - 1. &= 0.03603 - 0.00973 QSH72 (QT50-23.) - 0.14148 Q6064 \\ &\quad (5.45) \quad (5.44) \quad (9.70) \\ &\quad (0.038) \\ &\quad - 0.03536 (Q69-.0625) - 0.05472 GDF \\ &\quad (2.37) \quad (1.52) \end{aligned}$$

$R^2 = 0.935$ S.E. = 0.014 D.W. = 2.20
Sample Period 1961-1974

GDF defined above under (I.1a)

(I.5a) ISER Capital Investment in Services and Domestic Trade

$$\begin{aligned} \frac{ISER}{ISER_{-1}} - 1. &= 0.06012 - 0.07719 QSH68 + 0.86893 GINA \\ &\quad (2.31) \quad (4.58) \quad (3.14) \\ &\quad (0.076) \\ &\quad + 0.43488 (\frac{XAGT70}{XAGTN} + \frac{XAGT70_{-1}}{XAGTN_{-1}} - 2.) / 2. \end{aligned}$$

$R^2 = 0.801$ S.E. = 0.030 D.W. = 2.34
Sample Period 1959-1974

GINA defined above under (I.2a)

(I.6a) INA Capital Investment, Total Non-Agricultural

$$INA \equiv IIN + ICRUB + ITRUB + IHS + ISER$$

(b) Alternate Investment Model

Total Non-Agricultural Investment determined by equation

(I.6b). Sectoral Investment determined by exogenous share variables in equations (I.1b) - (I.5b).

$$(I.1b) IIN \equiv IRII9 * INA/100.$$

$$(I.2b) ICRUB \equiv IRIC9 * INA/100.$$

$$(I.3b) ITRUB \equiv IRIT9 * INA/100.$$

$$(I.4b) IHS \equiv IRIH9 * INA/100.$$

$$(I.5b) ISER \equiv IRIS9 * INA/100.$$

(I.6b) INA Total Non-Agricultural Investment

$$\frac{INA}{INA_{-1}} - 1. = 0.07275 - 0.01958 QFYP - 0.02834 (Q6567-3.*.0625) \\ (6.90) \quad (1.68) \quad (1.76) \\ (0.068)$$

$$- 0.04271 (QFIN-2.*.0625) + 0.12956 GPG - 0.14968 GDF \\ (2.74) \quad (2.12) \quad (3.39)$$

$$R^2 = 0.713 \quad S.E. = 0.020 \quad D.W. = 1.58 \\ \text{Sample Period 1959-1974}$$

GPG and GDF defined above under (I.1a)

(I.7) IA Capital Investment in Agriculture

$$\frac{IA}{IA_{-1}} - 1. = 0.05067 + 0.51408 GFA - 0.19307 GDF$$

(4.67) (5.14) (3.84)

(0.105)

$$+ 0.31392 \left(\frac{XAGT70}{XAGTN} - 1. \right) - 0.12747 \left(\frac{XAGT70_{-1}}{XAGTN_{-1}} - 1. \right)$$

(3.30) (1.38)

$$R^2 = 0.847 \quad S.E. = 0.018 \quad D.W. = 2.41$$

Sample Period 1961-1974

GDF defined above under (I.1a)

Where:

$$GFA = \frac{IFAG^*9/PIA_{-1}}{IFAG^*9_{-1}/PIA_{-2}} - 1.$$

(I.8) IFAJ* Adjusted Finance for Centralized Capital Investment

$$IFAJ* = IFIN^*9 - 4.9 QSH68_{-1}$$

(I.9) ITOTAL Total New Capital Investment in the National Economy

$$ITOTAL \equiv INA + IA$$

(a) Branch Investment, Direct Functions(I.10a) IIEP Capital Investment, Electroenergy

$$\frac{IIEP}{IIEP_{-1}} - 1. = 0.02935 + 0.05151 QFYP - 0.06037 (Q6869-2*.0625)$$

(3.26) (3.69) (3.00)

(0.052)

$$- 0.06243 (Q74-.0625)$$

(2.17)

$$R^2 = 0.644 \quad S.E. = 0.026 \quad D.W. = 1.75$$

Sample Period 1959-1974

(I.11a) IICP Capital Investment, Coal Products

$$\frac{IICP}{IICP-1} - 1. = 0.03138 + 0.04369 QFYP$$

(3.12) (3.18)
(0.032)

$$- 0.07639 (Q69+Q74 - 2.*.0625) - 0.29462 GDF$$

(3.92) (5.96)

$R^2 = 0.849$ S.E. = 0.023 D.W. = 1.48
Sample Period 1961-1974

GDF defined above under (I.1a).

(I.12a) IIPP Capital Investment, Petroleum Products

$$\frac{IIPP}{IIPP-1} - 1. = 0.02115 + 0.05256 QFYP - 0.13867 (Q69 - .0625)$$

(1.15) (3.28) (4.57)
(0.090)

$$+ 0.89909 GFI - 0.23682 GDF - 0.06849 (Q74 - .0625)$$

(3.94) (3.46) (2.11)

$R^2 = 0.804$ S.E. = 0.026 D.W. = 2.26
Sample Period 1961-1974

GFI and GDF defined above under (I.1a).

(I.13a) IIFM Capital Investment, Ferrous Metallurgy

$$\frac{IIFM}{IIFM-1} - 1. = 0.13818 - 0.12914 QFYP - 0.09812 (Q6567-3.*.0625)$$

(5.30) (3.34) (2.01)
(0.073)

$$- 0.07294 (Q69 - .0625) - 0.15492 GDF$$

(1.04) (1.09)

$R^2 = 0.582$ S.E. = 0.065 D.W. = 2.72
Sample Period 1959-1974

GDF defined above under (I.1a).

(I.14a) IINF Capital Investment, Non-Ferrous Metallurgy and Industry NEC

$$\frac{IINF}{IINF_{-1}} - 1 = 0.03360 - 0.08412 (Q6567-3*.0625) \\ (1.29) \quad (1.77) \\ (0.059)$$

$$- 0.04944 (QFIN-2.*.0625) + 0.41587 GPG - 0.28059 GDF \\ (1.00) \quad (2.16) \quad (2.04)$$

$R^2 = 0.458$ S.E. = 0.064 D.W. = 2.80
Sample Period 1959-1974

GPG and GDF defined above under (I.1a).

(I.15a) IICH Capital Investment, Chemicals and Petrochemicals

$$\frac{IICH}{IICH_{-1}} - 1 = 0.02821 + 0.16538 QSH65 - 0.13196 (Q6567-3.*.0625) \\ (0.97) \quad (4.13) \quad (3.41) \\ + 0.73257 GFI - 0.39119 GDF \\ (1.72) \quad (2.65)$$

$R^2 = 0.837$ S.E. = 0.055 D.W. = 2.36
Sample Period 1961-1974

GFI and GDF defined above under (I.1a).

(I.16a) IIMB Capital Investment, Machine-Building and Metal-Working

$$\frac{IIMB}{IIMB_{-1}} - 1 = 0.03686 - 0.03133 (Q6567-3.*.0625) \\ (1.27) \quad (1.16) \\ (0.102)$$

$$+ 0.08004 (Q70 - .0625) \\ (1.97)$$

$$+ 0.37440 GPG + 0.26604 \frac{IIMB}{IIMB_{-1}} - 1 \\ (3.00) \quad (1.40)$$

$R^2 = 0.714$ S.E. = 0.035 D.W. = 2.28
Sample Period 1961-1974 D. = 0.75

GPG defined above under (I.1a)

(I.17a) IIFP Capital Investment, Forest Products

$$\frac{IIFP}{IIFP_{-1}} - 1. = 0.08938 - 0.13170 \quad (Q6567-3.*.0625) \\ (0.053) \quad (6.91) \quad (5.67)$$

$$- 0.10780 \quad (QFIN + Q74 - 3.*.0625) - 0.31721 \quad GDF \\ (4.86) \quad (4.33)$$

$$- 0.32203 \quad \left(\frac{IIFP}{IIFP_{-1}} - 1. \right)_{-1} \\ (2.25)$$

$R^2 = 0.812$ S.E. = 0.033 D.W. = 2.91
 Sample Period 1959-1974 D. = 2.22

GDF defined above under (I.1a).

(I.18a) IICM Capital Investment, Construction Materials

$$\frac{IICM}{IICM_{-1}} - 1. = 0.00092 - 0.07839 \quad (Q6264-3.*0.0625) \\ (0.041) \quad (0.02) \quad (2.37)$$

$$+ 0.15350 \quad (Q6869 - 2.*.0625) + 0.64446 \quad \left(\frac{INA}{INA_{-1}} - 1. \right) \\ (4.01) \quad (1.08)$$

$R^2 = 0.750$ S.E. = 0.047 D.W. = 2.47
 Sample Period 1961-1974

(I.19a) IISG Capital Investment, Soft Goods

$$\frac{IISG}{IISG_{-1}} - 1. = 0.14023 - 0.10800 \quad (QFIN + Q74 - 3.*0.0625) \\ (0.094) \quad (7.53) \quad (4.41)$$

$$+ 0.10268 \quad GPG + 0.16611 \quad (Q66 - .0625) \\ (0.99) \quad (4.26)$$

$$- 0.20767 \quad GDF - 0.40822 \quad \left(\frac{IISG}{IISG_{-1}} - 1. \right)_{-1} \\ (2.75) \quad (3.93)$$

$R^2 = 0.867$ S.E. = 0.036 D.W. = 1.21
 Sample Period 1959-1974 D. = 1.74

GPG and GDF defined above under (I.1a).

(I.20a) IIPF Capital Investment, Processed Foods

$$\begin{aligned}
 \frac{\text{IIPF}}{\text{IIPF}_{-1}} - 1. &= 0.05281 - 0.04234 (\text{Q6567} - 3.*.0625) \\
 &\quad (3.71) \quad (1.57) \\
 &\quad (0.048) \\
 &\quad - 0.04223 (\text{Q69} - .0625) + 0.27581 \text{ GPG} \\
 &\quad \quad (1.16) \quad (2.59) \\
 &\quad - 0.46106 \text{ GDF} \\
 &\quad \quad (5.99)
 \end{aligned}$$

$R^2 = 0.823$ S.E. = 0.035 D.W. = 2.15
Sample Period 1961-1974

GPG and GDF defined above under (I.1a).

(b) Branch Investment, Share Equations

- (I.10b) $\text{IIEP} \equiv \text{IREP9} * \text{IIN}$
- (I.11b) $\text{IICP} \equiv \text{IRCP9} * \text{IIN}$
- (I.12b) $\text{IIPP} \equiv \text{IRPP9} * \text{IIN}$
- (I.13b) $\text{IIFM} \equiv \text{IRFM9} * \text{IIN}$
- (I.14b) $\text{IINF} \equiv \text{IRNF9} * \text{IIN}$
- (I.15b) $\text{IICH} \equiv \text{IRCH9} * \text{IIN}$
- (I.16b) $\text{IIMB} \equiv \text{IRuB9} * \text{IIN}$
- (I.17b) $\text{IIFP} \equiv \text{IRFP9} * \text{IIN}$
- (I.18b) $\text{IICM} \equiv \text{IRCM9} * \text{IIN}$
- (I.19b) $\text{IISG} \equiv \text{IRSG9} * \text{IIN}$
- (I.20b) $\text{IIPF} \equiv \text{IRPF9} * \text{IIN}$

(I.21) I70T Change in Inventories, Domestic Trade

$$I70T = - 2.27542 - 0.50968 IS70T_{-1} + 0.39720 XILT^* \\ (2.249) \quad (1.66) \quad (6.01) \quad (5.51)$$

$$+ 0.14637 (XILT - CRND70 - CRD70) \\ (2.06)$$

$$- 0.06053 (XAGT70_{-1} - XAGTN_{-1}) \\ (1.72)$$

$$- 0.37225 \left(\frac{100 \cdot BDN^* 9}{PIWH70} - \frac{100 \cdot BDN^* 9_{-1}}{PIWH70_{-1}} - 0.48824 \right) \\ (2.69)$$

$R^2 = 0.824$ S.E. = 0.443 D.W. = 2.49
Sample Period 1958-1972

Where: $XILT = 0.27291 XISG + 0.39034 XIPF$,

and:

$$X^* \equiv X_{-1} \left(.1 \frac{X_{-1}}{X_{-2}} + .4 \frac{X_{-2}}{X_{-3}} + .4 \frac{X_{-3}}{X_{-4}} + .1 \frac{X_{-4}}{X_{-5}} \right)$$

a projection based on four previous growth rates.

(I.22) IS70T Stock of Inventories, Domestic Trade (End Year)

$$IS70T \equiv IS70T_{-1} + I70T$$

(I.23) I70NTA Change in Inventories, Non-Trade, Non-Agriculture

$$I70NTA = 2.37632 - 0.41277 IS70NTA_{-1} + 0.47275 XIH^* \\ (6.156) \quad (1.33) \quad (2.46) \quad (2.58)$$

$$- 0.84795 (XIH^* - XIH - .2342) + 5.60397 Q66 \\ (1.45) \quad (2.95)$$

$R^2 = 0.692$ S.E. = 1.811 D.W. = 1.51
Sample Period 1958-1972

(I.23) I70NTA Change in Inventories, Non-Trade, Non-Agriculture
(Continued)Where: $XIH = 1.71449 XIT - 0.27291 XISG - 0.39034 XIPF$ and: XIH^* defined under (I.21) above.(I.24) IS70NTA Stock of Inventories, Non-Trade, Non-Agricultural
(End-Year)

$$IS70NTA = IS70NTA_{-1} + I70NTA$$

(I.25) ICAPREP Capital Repair: Index

$$\frac{18.611 \text{ ICAPREP}}{\text{KSUM}} = 2.76293 - 0.01728 (\text{QT50-22.}) \text{ QSH71}$$

$$(2.811) \quad (208.8) \quad (8.39)$$

$$- 0.09793 \text{ Q62} - 0.12222 \text{ Q6870}$$

$$(3.51) \quad (6.81)$$

 $R^2 = 0.945$ S.E. = 0.025 D.W. = 1.64
 Sample Period 1960-1973
(I.26) ISUM Total Investment, National Economy

$$ISUM \equiv ITOTAL + .18611 \text{ ICAPREP} + I70NTA + I70T$$

$$+ (\text{ALVR70} - \text{ALVR70}_{-1})$$

K CAPITAL(K.1) KITOT Industrial Basic Funds (Capital Stock) (Jan. 1)

$$KITOT_{+1} \equiv KITOT + KNDI$$

(K.2) KIA Adjusted Industrial Basic Funds (Jan. 1)

$$KIA_{+1} \equiv KITOT_{+1} - KIT589 - KIH629$$

(K.3) KNDI Industrial Capital Formation

$$KNDI + 0.05 KITOT = 1.29293 \text{ (QFYP-0.4375)} + 0.1275 IIN \\ (23.120) \quad (2.51) \quad (0.40)$$

$$+ 0.3274 IIN_{-1} + 0.3728 IIN_{-2} \\ (18.70) \quad (2.04)$$

$$+ 0.2637 IIN_3 \\ (1.49)$$

$R^2 = .986$ S.E. = 1.006 D.W. = 1.86
Sample Period 1959-1974

Distributed Lag: Quadratic, 4-Period, Zero-constrained
in 5th Period.

(K.4) KCR Construction Basic Funds (Jan. 1)

$$KCR_{+1} \equiv KCR + KNDC$$

(K.5) KNDC Construction Capital Formation

$$KNDC + 0.06 KCR = 0.27781 (QPL5-0.47) + 1.02686 ICRUB$$

(2.178) (1.82) (31.82)

$R^2 = .934$ S.E. = 0.313 D.W. = 2.21
 Sample Period 1958-1974

(K.6) KTR Transport and Communications Basic Funds (Jan. 1)

$$KTR_{+1} \equiv KTR + KNDT$$

(K.7) KTA Adjusted Transport and Communications Basic Funds (Jan. 1)

$$KTA_{+1} \equiv KTR_{+1} + KIT589$$

(K.8) KNDT Transport and Communications Capital Formation

$$KNDT + 0.025 KTR = 2.50957 (Q65-0.0625) + 0.61852 (ITRUB+ITRUB_{-1})$$

(7.844) (3.79) (51.07)

$R^2 = .938$ S.E. = 0.640 D.W. = 1.09
 Sample Period 1959-1974

(K.9) KTCUS Freight Car Utilization Rate

$$KTCUS = 182.420 QSH65 + 3.97245 QSH65 * QT50$$

$$(242.8) \quad (36.86) \quad (9.79)$$

$$+ 233.239 (1. - QSH65) + 0.97800 (1. - QSH65) * QT50$$

$$(47.56) \quad (4.13)$$

$$- 15.84557 \left(\frac{BDN^*9/PIWH70}{BDN^*9-1/PIWH70-1} - 1. \right)$$

 $R^2 = 0.982 \quad S.E. = 2.15 \quad D.W. = 2.28$

Sample Period 1958-1974

(K.10.) KCOM Basic Funds, Domestic Trade (Jan. 1)

$$KCOM_{+1} \equiv KCOM + KNCOM$$

(K.11) KNCOM Capital Formation, Domestic Trade

$$KNCOM + 0.02 KCOM = 3.51814 Q65 + 2.06880 (Q68-Q69)$$

$$(2.367) \quad (7.36) \quad (6.24)$$

(K.11) KNCOM Capital Formation, Domestic Trade, Continued

$$+ 0.102886 (ISER_{-1} + ISER_{-2})$$

(18.25)

$R^2 = 0.903$ S.E. = 0.469 D.W. = 1.43
Sample Period 1960-1974

(K.12) KHBF Basic Funds, Housing (Jan. 1)

$$KHBF_{+1} \equiv KHBF + KNDH$$

(K.13) KNDH Housing Capital Formation

$$KNDH + 0.02 KHBF = - 0.62710 (QFYP-0.467) + 7.74913 Q62$$

(10.945) (1.36) (8.83)

$$+ 0.45700 (IHS + IHS_{-1}) - 6.45250 (Q74-0.067)$$

(49.31) (7.21)

$R^2 = 0.925$ S.E. = 0.811 D.W. = 2.60
Sample Period 1960-1974

(K.14) KHA Adjusted Housing Basic Funds (Jan. 1)

$$KHA_{+1} \equiv KHBF_{+1} + \frac{7.84}{1.74} KIH 629$$

(K.15) KSER Basic Funds, Services (Jan. 1)

$$KSER_{+1} \equiv KSER + KNSER$$

(K.16) KNSER Services Capital Formation

$$KNSER + 0.02 KSER = 0.84631 (QFYP - 0.467) + 4.32465 Q63$$

(0.94) (2.68)

(9.168)

$$- 2.81349 (QFIN_{-1} - 0.133) + 0.49679 (ISER_{-3} + ISER_{-4})$$

(2.17) (24.39)

$R^2 = 0.875$ S.E. = 1.469 D.W. = 1.19
 Sample Period 1960-1974

(K.17) KAIR Agricultural Basic Funds (excl. Productive Livestock) (mid-year)

$$KAIR - 0.95 KAIR_{-1} = 0.55756 QPL7 + 0.467846 \left(\frac{IA+IA_{-1}}{2} \right)$$

(2.65) (48.16)

$R^2 = .976$ S.E. = 0.430 D.W. = 1.82
 Sample Period 1957-1972

(K.18) KIW Industrial Capital, Western Machinery (End Year Value)

$$KIW \equiv 0.95 KIW_{-1} + 0.0712 (MIEIN$/PREX9.P71GE9)_{-1}$$

(K.19) KIEP Basic Funds, Electroenergy (Jan. 1)

$$KIEP_{+1} \equiv KIEP + KNIEP$$

(K.20) KNIEP Capital Formation, Electroenergy

$$KNIEP + 0.04 KIEP = - 0.12905 (QFYP - 0.4375) + 2.07170 IIEP$$

(0.43) (2.16)

(3.476)

$$- 1.47324 (IIEP_{-1} + IIEP_{-2})$$

(2.26)

$$+ 1.22625 (IIEP_{-3} + IIEP_{-4})$$

(3.33)

$R^2 = 0.898$ S.E. = 0.459 D.W. = 2.80
Sample Period 1959-1974

(K.21) KICP Basic Funds, Coal Products (Jan. 1)

$$KICP_{+1} \equiv KICP + KNICP$$

(K.22) KNICP Capital Formation, Coal Products

$$\text{KNICP} + 0.03 \text{ KICP} = 0.12458 (\text{QFYP} - 0.4375) - 0.30790 \text{ Q68}$$

$$- (4.04) \quad (4.85)$$

$$(0.812)$$

$$+ 0.19906 (\text{IICP} + \text{IICP-1} + \text{IICP-2})$$

$$(54.31)$$

$R^2 = 0.893$ S.E. = 0.060 D.W. = 2.38
 Sample Period 1959-1973

(K.23) KIPP Basic Funds, Petroleum Products (Jan. 1)

$$\text{KIPP}_{+1} \equiv \text{KIPP} + \text{KNIPP}$$

(K.24) KNIPP Capital Formation, Petroleum Products

$$\text{KNIPP} - 0.025 \text{ KIPP} = - 0.36390 (\text{QFYP} - 0.4375)$$

$$- (1.90)$$

$$- 0.56143 (\text{Q6567} - 0.1875)$$

$$- (2.31)$$

$$+ 0.20093 (\text{IIIPP} + \text{IIIPP-1} + \text{IPP-2})$$

$$+ (20.19)$$

$R^2 = 0.361$ S.E. = 0.344 D.W. = 1.56
 Sample Period 1959-1974

(K.25) KIFM Basic Funds, Ferrous Metallurgy (Jan. 1)

$$\text{KIFM} = \text{KIFM} + \text{KNIFM}$$

(K.26) KNIFM Capital Formation, Ferrous Metallurgy

$$KNIFM + 0.05 KIFM = 0.41777 \quad (IIFM + IIFM_{-1} + IIFM_{-2})$$

$$(2.316) \quad (33.36)$$

$$R^2 = 0.824 \quad S.E. = 0.287 \quad D.W. = 2.68$$

Sample Period 1959-1974

(K.27) KICH Basic Funds, Chemicals and Petrochemicals (Jan. 1)

$$KICH_{+1} \equiv KICH + KNICH$$

(K.28) KNICH Capital Formation, Chemicals and Petrochemicals

$$KNICH + 0.04 KICH = 0.68586 \quad (QFYP - 0.4375)$$

$$(2.152) \quad (3.14)$$

$$+ 0.58158 \quad (IICH_{-1} + IICH_{-2})$$

$$(20.99)$$

$$R^2 = 0.823 \quad S.E. = 0.433 \quad D.W. = 2.35$$

Sample Period 1959-1974

(K.29) KIMB Basic Funds, Machine-Building and Metal-Working (Jan. 1)

$$KIMB_{+1} \equiv KIMB + KNIMB$$

(K.30) KNIMB Capital Formation, Machine-Building and Metal-Working

$$KNIMB + 0.05 KIMB = 0.27786 (QFYP - 0.4375) \\ (4.952) \quad (1.47)$$

$$+ 0.81632 (Q66 - 0.0625) \\ (2.11)$$

$$+ 0.59136 (IIMB + IIMB_{-1}) \\ (59.06)$$

$R^2 = 0.978$ S.E. = 0.364 D.W. = 1.85
Sample Period 1959 - 1974

(K.31) KIFP Basic Funds, Forest Products (Jan. 1)

$$KIFP_{+1} \equiv KIFP + KNIFP$$

(K.32) KNIFP Capital Formation, Forest Products

$$KNIFP + 0.045 KIFP = 0.15823 (QFYP - 0.4375) \\ (1.068) \quad (2.10)$$

$$+ 0.45471 (IIFP + IIFP_{-1}) \\ (29.76)$$

$R^2 = 0.841$ S.E. = 0.149 D.W. = 1.32
Sample Period 1959-1974

(K.33) KICM Basic Funds, Construction Materials (Jan.1)

$$KICM_{+1} \equiv KICM + KNICM$$

(K.34) KNICM Capital Formation, Construction Materials

$$KNICM + 0.04 KICM = - 1.25157 \quad (Q70 - 0.0625)$$

(6.87)

(1.372)

$$+ 0.4167 IICM$$

(2.02)

$$+ 0.3131 IICM_{-1} + 0.2092 IICM_{-2}$$

(22.87) (1.80)

$$+ 0.1048 IICM_{-3}$$

(0.93)

$R^2 = 0.897$ S.E. 0.171 D.W. = 1.71
 Sample Period 1959-1974

Distributed Lag estimation: Quadratic, 4-Period,
 Zero-Constrained in
 5th Period.

(K.35) KISG Basic Funds, Soft Goods (Jan. 1)

$$KISG_{+1} \equiv KISG + KNISG$$

(K.36) KNISG Capital Formation, Soft Goods

$$KNISG + 0.05 KISG = 0.6133 IISG + 0.3529 IISG_{-1}$$

(1.06) (1.53)

(1.046)

$$+ 0.1485 IISG_{-2}$$

(0.35)

(K.36) KNISG Capital Formation, Soft Goods, Continued
 $R^2 = 0.857$ S.E. = 0.162 D.W. = 2.13
 Sample Period 1959-1974

 Distributed Lag estimation: Quadratic, 3-Period, Zero
 Constrained in 4th Period.
(K.37) KIPF Basic Funds, Processed Foods (Jan. 1)

$$KIPF_{+1} \equiv KIPF + KNIPF$$

(K.38) KNIPF Capital Formation, Processed Foods

$$KNIPF + 0.05 KIPF = 0.94467 \quad (Q61 - Q62)$$

$$(1.852) \qquad \qquad \qquad (6.01)$$

$$+ 0.1405 \quad IIPF$$

$$(0.39)$$

$$+ 0.4867 \quad IIPF_{-1} + 0.4399 \quad IIPF_{-2}$$

$$(3.46) \qquad \qquad \qquad (1.68)$$

 $R^2 = 0.903$ S.E. = 0.221 D.W. = 1.58
 Sample Period 1959 - 1974

 Distributed Lag estimation: Quadratic, 3-Period,
 Zero-constrained in
 4th Period.
(K.39) KSUM Basic Funds, National Economy (Mean Year)

$$KSUM \equiv KAIR + \frac{1}{2} (KIA + KCR + KTA + KCOM + KHA + KSER)_{+1}$$

$$+ \frac{1}{2} (KIA + KCR + KTA + KCOM + KHA + KSER)$$

(K.40) KIPPM Basic Funds: Petroleum Products, Machinery Imports

$$KIPPM \equiv 0.95 KIPPM_{-1} + .0712 (MFM120-9*/P71GE9)_{-1}$$

(K.41) KICHW Basic Funds: Chemicals and Petrochemicals, Western Machinery Imports

$$KICHW \equiv 0.95 KICHW_{-1} + .0712 (MIECH$/PREX9.P71GE9)_{-1}$$

(K.42) KIMBM Basic Funds: Machine-Building, Machinery Imports

$$KIMBM \equiv 0.95 KIMBM_{-1} + .0712 (MTM100-5*/P71GE9)_{-1}$$

A. Agricultural Variables(A.1) ALVR70 Value of Productive Livestock (End-Year)

$$\frac{ALVR70}{ALVR70_{-1}} - 0.95 = 1.55785 - 0.67837 QLT28$$

(3.24) (3.21)
(0.0784)

$$+ 0.01668 KWAL9 + 2.05350 \frac{AFeed70}{ALVR70_{-1}}$$

(2.34) -1 (2.84)

$R^2 = 0.470$ S.E. = 0.039 D.W. = 2.10
Sample Period 1959-1974

(A.2) AVCP70 Value of Agricultural Current Purchases

$$\frac{100 \cdot AVCP70}{XAGTN} = 2.50195 + 0.42954 QT50$$

(8.91) (28.21)
(9.99)

$$+ 2.08567 \left(\frac{XAGT70}{XAGTN} - 1 \right)$$

(1.86)

$R^2 = 0.988$ S.E. = 0.25 D.W. = 1.13
Sample Period 1959-1974

(A.3) AFeed70 Value of Feed Fed to Livestock

$$100 \cdot \frac{AFeed70}{ALV} = - 12.15528 + 5.58824 QLT28$$

(2.83) (4.82)
(7.980)

$$+ 6.60336 \left(\frac{XCROP70}{XACN} \right) + \frac{XCROP70_{-1}}{XACN_{-1}} - 2 \cdot$$

(4.43)

$R^2 = 0.850$ S.E. = 0.496 D.W. = 1.75
Sample Period 1959-1974

Where: $ALV = ALVR70_{-1} + ALVR70$

X. Production(X.1) XAGT70 Total Agricultural Output (Two-Stage Determination)(i) Normal Output: Linked Second-Peak XAGT70

$$\ln XAGTN = 0.30 \ln NAT + .03 \ln AIVR70 -.12 \ln AVCP70$$

(2.813)

$$= 1.95612 + 0.21378 \ln KAIR$$

(51.14) (22.51)

$$R^2 = 0.973 \quad S.E. = 0.015 \quad D.W. = 0.71$$

Sample Period 1959-1974

Actual Output: Fitted Values for XAGTN used in Second-stage

$$(ii) \ln XAGT70 - \ln XAGTN = -0.02514 + 0.09505 JPS9 + 0.66702 JTW9$$

(-0.016) (3.08) (4.89) (3.91)

$$R^2 = 0.790 \quad S.E. = 0.032 \quad D.W. = 1.98$$

Sample Period 1959-1974

XAGT70

Accuracy of Fit: 0.972
 Mean Abs. Error: 1.49 B. 1970 Rubles
 Largest Error: -3.99 B. 1970 Rubles (1974)

(X.2) XCROP70 Value of Total CropsNormal Output: Linked Second-Peak XCROP70

$$(i) \ln XACN - 0.30 \ln NAT = 1.23866$$

(2.382) (9.23)

$$+ 0.17318 \ln KAIR + 0.23230 \ln AVCP70$$

(2.19) (2.44)

$$R^2 = 0.995 \quad S.E. = 0.012 \quad D.W. = 0.91$$

Sample Period 1959-1974

Actual Output: Fitted XACN used in Second-stage Estimation

(ii) $\ln \text{XCROP70} - \ln \text{XACN} = -0.04463 + 0.09866 \text{ JPS9}$
 $(-0.0355) \quad (2.85) \quad (2.64)$

$+ 0.55969 \ln \text{JTW9}$
 (1.71)

$R^2 = 0.485$ S.E. = 0.061 D.W. = 2.39
 Sample Period 1959-1974

XCROP70

Accuracy of Fit: 0.892
 Mean Absolute Errors: 1.49 B. 1970 Rubles
 Largest Error: -4.28 B. 1970 Rubles (1974)

(x.3) XANIM70 Gross Livestock Production

Normal Output: First-stage Estimation

(i) $\ln \text{XAN} = 0.95622 + 0.51808 \ln \text{ALV}$
 $(3.854) \quad (1.97) \quad (3.84)$

$+ 5.17423 \frac{\text{AFEED70}}{\text{ALV}}$
 (8.37)

$R^2 = 0.937$ S.E. = 0.046 D.W. = 1.76
 Sample Period 1959-1974

Where: $\text{ALV} = \frac{\text{ALVR70}_{-1} + \text{ALVR70}}{2.}$

Actual Output: Residuals of (i) used in Second-stage Estimation

(ii) $\ln \text{XANIM70} - \ln \text{XAN} = 0.00746 + 0.20561 \frac{\text{XGRT}_{-1}}{\text{XGRTN}}$
 $(0.00) \quad (0.72) \quad (2.04)$

$R^2 = 0.229$ S.E. = 0.039 D.W. = 1.62
 Sample Period 1959-1974

XANIM70

Accuracy of Fit: 0.948
 Mean Absolute Error: 1.55 B. 1970 Rubles
 Largest Sample Error: -3.90 B. 1970 Rubles (1973)

(X.4) XMEAT70 Value of Meat ProducedNormal Output: First-stage Estimation

$$(i) \ln XAM = -1.64513 + 1.09080 \ln ALV + 3.26202 \frac{AFeed70}{ALV}$$

(3.238) (2.67) (6.38)

$R^2 = 0.916$ S.E. = 0.058 D.W. = 2.06
Sample Period 1959-1974

$$\text{Where: } ALV = \frac{ALVR70_{-1} + ALVR70}{2}$$

Actual Output: Residuals of (i) used in Second-stage Estimation

$$(ii) \ln XMEAT70 - \ln XAM = -0.01023 - 0.31995 \left(\frac{XCROP70}{XACN} - 1 \right)$$

(0.00) (0.76) (1.91)

$R^2 = 0.207$ S.E. = 0.050 D.W. = 1.65
Sample Period 1959-1974

XMEAT70

Accuracy of Fit: 0.948
Mean Absolute Error: 0.805 B. 1970 Rubles
Largest Sample Error: -2.78 B. 1970 Rubles (1964)

(X.5) XGRT Total Grain Production (Official Series)Normal Output (Interpolated Second-peak series)

$$(i) \ln XGRTN = 0.30 \ln \left[\frac{NASK + NASK_{-1} + NASK_{-2}}{3} \right] + 0.53238$$

(4.063) (1.75)

$$+ 0.36430 \ln ASGR9 + 0.43005 \ln KAIR$$

(6.15) (48.60)

$R^2 = 0.995$ S.E. = .013 D.W. = 1.18
Sample Period 1959-1973

Actual Output (Fitted values used for XGRTN)

$$(ii) \ln XGRT - \ln XGRTN = - 0.03595 + 0.10922 JPS9$$

(-0.042) (2.17) (2.73)

$$+ 1.30996 JTW9 - 0.16894 Q65$$

(4.01) (2.60)

$R^2 = 0.781$ S.E. = 0.061 D.W. = 1.91
Sample Period 1959-1973

Fit Statistic for XGRT: 0.938
Mean Absolute Error: 6.2 M. Metric Tons

(X.6) XGR Net Grain Production (Western Estimate)

Capacity Output: Linked Second-Peak XGR

$$(i) \ln XGRPK = - 0.24857 + 0.53782 \ln KAIR$$

(4.629) (0.18) (13.10)

$$+ 0.83028 \ln NASK$$

(2.25)

$R^2 = 0.989$ S.E. = 0.020 D.W. = 0.37
Sample Period 1959-1973

Actual Output: Fitted values of (i) used in Regression

$$(ii) \ln XGR - \ln XGRPK = - 0.07125 + 0.11648 JPS9$$

(-.079) (4.27) (2.94)

$$+ 1.50461 JTW9 - 0.19986 Q65$$

(4.58) (3.06)

$R^2 = 0.820$ S.E. = 0.061 D.W. = 2.72
Sample Period 1959-1973

(X.7) XIEP Branch Output: Electroenergy(a) Primary Factors

$$(XIEP/XIEP_{-1}) - 0.03 = 0.69574 \quad (NMIEP/NMIEP_{-1})$$

(7.53)

(0.063)

$$+ 0.28360 \quad (KIEP/KIEP_{-1}) - 0.04202 \quad Q66$$

(7.18) \quad (3.48)

$R^2 = 0.761$ S.E. = 0.011 D.W. = 1.57
 Sample Period 1959-1974 Fit = 0.9995

(b) Material Inputs

$$(XIEP/XIEP_{-1}) = 0.89931 \quad (NMIEP/NMIEP_{-1})$$

(5.82)

(0.094)

$$+ 0.29315 \quad (KIEP/KIEP_{-1})$$

(4.19)

$$+ 0.05127 \quad (UEP/UEP_{-1}) + 0.03123 \quad QSH68$$

(1.28) \quad (3.69)

$R^2 = 0.546$ S.E. = 0.015 D.W. = 1.90
 Sample Period 1960-1972 Fit = 0.9987

(X.8) XICP Branch Output: Coal Products(a) Primary Factors

$$(XICP/XICP_{-1}) - 0.01 = 0.18342 \quad (NMICP/NMICP_{-1})$$

(1.68)

(0.014)

$$+ 0.34038 \quad (KICP/KICP_{-1}) - 0.02939 \quad Q61$$

(6.93) \quad (3.42)

$R^2 = 0.488$ S.E. = 0.008 D.W. = 2.11
 Sample Period 1960-1974 Fit = 0.9954

(b) Material Inputs

$$(XICP/XICP_{-1}) = 0.17498 (NMICP/NMICP_{-1})$$

(1.17)
(0.024)

$$+ 0.46738 (KICP/KICP_{-1})$$

(4.96)

$$+ 0.04753 (UCP/UCP_{-1}) - 0.03066 Q61$$

(0.69) (2.82)

$R^2 = 0.396$ S.E. = 0.010 D.W. = 1.90
Sample Period 1960-1972 Fit = 0.9919

(X.9) XIPP Branch Output: Petroleum Products(a) Primary Factors

$$(XIPP/XIPP_{-1}) = .373 (NMIPP/NMIPP_{-1})$$

(0.081)

$$= 0.46455 \frac{(KIPP-KIPPM)}{(KIPP_{-1}-KIPPM_{-1})} - 1.$$

$$+ 0.09537 (KIPPM/KIPPM_{-1}) + 0.04830 Q5963$$

(1.53) (3.72)

$R^2 = 0.550$ S.E. = 0.018 D.W. = 2.34
Sample Period 1959-1974 Fit = .9971

(b) Material Inputs

$$(XIPP/XIPP_{-1}) = .373 (.604) (NMIPP/NMIPP_{-1})$$

(0.083)

$$= 0.42862 \frac{(KIPP-KIPPM)}{(KIPP_{-1}-KIPPM_{-1})} - 1.$$

$$+ 0.07810 (KIPPM/KIPPM_{-1})$$

(1.16)

$$+ 0.14335 (UPP/UPP_{-1}) + 0.04774 Q5963$$

(1.79) (3.95)

$R^2 = 0.594$ S.E. = 0.016 D.W. = 2.75
Sample Period 1960-1972 Fit = .9978

(X.10) XIFM Branch Output: Ferrous Metallurgy(a) Primary Factors

$$(XIFM/XIFM_{-1} - 1) - 0.02 \approx 1.05757 \quad (NMIFM/NMIFM_{-1} - 1) \\ (0.042) \quad (3.18)$$

$$+ 0.16381 \quad (KIFM/KIFM_{-1} - 1) \\ (1.91)$$

$R^2 = 0.453$ S.E. = 0.017 D.W. = 1.96
Sample Period 1959-1974 Fit = 0.9977

(b) Material Inputs

$$(XIFM/XIFM_{-1} - 1) - 0.02 \approx 0.81606 \quad (NMIFM/NMIFM_{-1} - 1) \\ (0.042) \quad (3.58)$$

$$+ 0.03550 \quad (KIFM/KIFM_{-1} - 1) \\ (0.42) \\ + 0.26690 \quad (UME/UME_{-1} - 1) \\ (2.64)$$

$R^2 = 0.738$ S.E. = 0.010 D.W. = 2.70
Sample Period 1960-1972 Fit = 0.9982

(X.11) XINF Branch Output: Nonferrous Metallurgy(a) Primary Factors

$$(XINF/XINF_{-1} - 1) - 0.02 = 0.60945 \quad (NMINF/NMINF_{-1} - 1) \\ (0.056) \quad (1.72)$$

$$+ 0.32526 \quad (KIFM/KIFM_{-1} - 1) + 0.03195 \quad Q6670 \\ (3.83) \quad (3.99)$$

$R^2 = 0.090$ S.E. = 0.016 D.W. = 2.01
Sample Period 1959-1974 Fit = 0.9981

(b) Material Inputs

$$(XINF/XINF_{-1} - 1) - 0.02 = 0.38023 \quad (NMINF/NMINF_{-1} - 1) \\ (1.16) \\ (0.058)$$

$$+ 0.29229 \quad (KIFM/KIFM_{-1} - 1) \\ (2.65)$$

$$+ 0.10963 \quad (UME/UIME_{-1} - 1) + 0.02934 \quad Q6670 \\ (0.71) \quad (3.58)$$

$R^2 = .361$ S.E. = 0.014 D.W. = 2.53
 Sample Period 1960-1972 Fit = 0.9984

(x.12) XICH Branch Output: Chemicals and Petrochemicals(a) Primary Factors

$$(XICH/XICH_{-1} - 1) - .359 \quad (NMICH/NMICH_{-1} - 1) \\ (0.077)$$

$$= 0.19157 \quad \left(\frac{KICH - KICHW}{KICH_{-1} - KICHW_{-1}} \right) - 1 \\ (4.45)$$

$$+ 0.08902 \quad (KICHW/KICHW_{-1} - 1) + 0.04736 \quad (1 - QSH65) \\ (3.51) \quad (5.78)$$

$R^2 = -0.194$ S.E. = 0.022 D.W. = 2.37
 Sample Period 1959-1974 Fit = .9984

(b) Material Inputs

$$(XICH/XICH_{-1} - 1) - .359 \quad (.399) \quad (NMICH/NMICH_{-1} - 1) \\ (0.091)$$

$$= 0.21184 \quad \left(\frac{KICH - KICHW}{KICH_{-1} - KICHW_{-1}} \right) - 1 \\ (2.22)$$

$$+ 0.09884 \quad (KICHN/KICHW_{-1} - 1) \\ (2.52)$$

$$+ 0.12845 \quad (UCH/UCH_{-1} - 1) + 0.04166 \quad (1 - QSH65) \\ (0.67) \quad (3.66)$$

(b) Material Inputs (con't.)

$R^2 = 0.061$ S.E. = 0.026 D.W. = 2.51
 Sample Period 1960-1972 Fit = .9973

(X.13) XIMB Branch Output: Machine Building and Metal Working(a) Primary Factors

$$\begin{aligned}
 (XIMB/XIMB_{-1} - 1) &= 1.14460 \quad (NMIMB/NMIMB_{-1} - 1) \\
 &\quad (8.79) \\
 &+ 0.09865 \quad \left(\frac{KIMB - KIMBM}{KIMB_{-1} - KIMBM_{-1}} \right) - 1 \\
 &\quad (1.38) \\
 &+ 0.20557 \quad (KIMBM/KIMBM_{-1} - 1) - 0.04838 \quad Q6365 \\
 &\quad (4.24) \\
 &+ 0.02026 \quad QSH72 \\
 &\quad (3.88)
 \end{aligned}$$

$R^2 = 0.889$ S.E. = 0.007 D.W. = 2.82
 Sample Period 1959-1974 Fit = 0.9999

(b) Material Inputs

$$\begin{aligned}
 (XIMB/XIMB_{-1} - 1) &- 0.200 \quad (UMB/UMB_{-1} - 1) \\
 &\quad (0.055) \\
 &= 0.71779 \quad (NMIMB/NMIMB_{-1} - 1) \\
 &\quad (3.23) \\
 &+ 0.11254 \quad \left(\frac{KIMB - KIMBM}{KIMB_{-1} - KIMBM_{-1}} \right) - 1 \\
 &\quad (0.95) \\
 &+ 0.16577 \quad (KIMBM/KIMBM_{-1} - 1) - 0.03822 \quad Q6365 \\
 &\quad (1.85) \quad (4.35)
 \end{aligned}$$

$R^2 = 0.607$ S.E. = 0.011 D.W. = 1.76
 Sample Period 1960-1972 Fit = 0.9986

(X.14) XIFP Branch Output: Forest Products(a) Primary Factors

$$\begin{aligned}
 (XIFP/XIFP_{-1}) - .02 &= 0.48620 \quad (NMIFP/NMIFP_{-1}) \\
 &\quad (.099) \\
 &+ 0.23734 \quad (KIFP/KIFP_{-1}) - 0.02825 \quad Q6566 \\
 &\quad (5.64) \quad (3.17) \\
 &- 0.04533 \quad Q6061 \\
 &\quad (4.28)
 \end{aligned}$$

$R^2 = .684$ S.E. = 0.012 D.W. = 2.21
Sample Period 1960-1974 Fit = 0.9956

(b) Material Inputs

$$\begin{aligned}
 (XIFP/XIFP_{-1}) &= 0.44927 \quad [.553 \quad (UFP/UFP_{-1})] \\
 &\quad (2.30) \\
 &+ .447 \quad (.63) \quad (NMIFP/NMIFP_{-1}) \\
 &+ 0.34219 \quad (KIFP/KIFP_{-1}) - 0.02855 \quad Q6566 \\
 &\quad (4.48) \quad (2.61) \\
 &- 0.04670 \quad Q6061 \\
 &\quad (4.06)
 \end{aligned}$$

$R^2 = .612$ S.E. = 0.014 D.W. = 1.65
Sample Period 1960-1972 Fit = .9907

(X.15) XIPA Branch Output: Paper and Pulp(a) Primary Factors

$$\begin{aligned}
 (XIPA/XIPA_{-1}) - 0.02 &= 0.32433 \quad (NMIPA/NMIPA_{-1}) \\
 &\quad (1.21) \\
 &+ 0.28065 \quad (KIFP/KIFP_{-1}) + 0.04916 \quad Q6566 \\
 &\quad (2.55) \quad (2.63) \\
 &+ 0.01071 \quad QSH68 \\
 &\quad (1.29)
 \end{aligned}$$

$R^2 = .574$ S.E. = 0.017 D.W. = 2.88
Sample Period 1959-1974 Fit = 0.9979

(b) Material Inputs

$$\begin{aligned}
 (XIPA/XIPA_{-1} - 1) &= 0.16648 \quad (NMIPA/NMIPA_{-1} - 1) \\
 &\quad (0.77) \\
 &\quad (0.069) \\
 &+ 0.39275 \quad (KIFP/KIFP_{-1} - 1) \\
 &\quad (4.32) \\
 &+ 0.31019 \quad (UPA/UPA_{-1} - 1) + 0.04943 \quad Q6566 \\
 &\quad (4.88) \quad (3.25)
 \end{aligned}$$

$R^2 = 0.760$ S.E. = 0.014 D.W. = 2.80
 Sample Period 1960-1972 Fit = 0.9987

(X.16) XICM Branch Output: Construction Materials(a) Primary Factors

$$\begin{aligned}
 (XICM/XICM - 1) &- 0.59 \quad (NMICM/NMICM_{-1} - 1) = \\
 &\quad (0.059) \\
 &+ 0.17619 \quad (KICM/KICM_{-1} - 1) + 0.05121 \\
 &\quad (3.03) \quad (5.13) \\
 &- 0.01853 \quad QFYP - 0.04105 \quad Q6869 \\
 &\quad (2.06) \quad (2.95)
 \end{aligned}$$

$R^2 = 0.732$ S.E. = 0.018 D.W. = 1.30
 Sample Period 1959-1974 Fit = .9975

(b) Material Inputs

$$\begin{aligned}
 (XICM/XICM_{-1} - 1) &- 0.59 \quad (.482) \quad (NMICM/NMICM_{-1} - 1) \\
 &\quad (0.064) \\
 &= 0.20626 \quad (KICM/KICM_{-1} - 1) \\
 &\quad (1.53) \\
 &+ 0.17136 \quad (UCM/UCM_{-1} - 1) + 0.02966 \\
 &\quad (1.15) \quad (1.39)
 \end{aligned}$$

$R^2 = 0.233$ S.E. = 0.029 D.W. = 1.26
 Sample Period 1960-1972 Fit =

(X.17) XISG Branch Output: Softgoods(a) Primary Factors

$$\begin{aligned}
 \ln XISG = & - 4.73048 + 0.92123 \ln NMISG \\
 (4.356) & (2.97) (4.60) \\
 & + 0.21945 \ln KISG + 0.22810 \ln XAGT70_{-1} \\
 & (4.11) (3.12) \\
 & - 0.08337 Q6567 \\
 & (7.47)
 \end{aligned}$$

$R^2 = 0.996$ S.E. = 0.017 D.W. = 2.00
 Sample Period 1958-1974 Fit = 0.996

(b) Material Inputs

$$\begin{aligned}
 \ln XISG = & - 8.31346 + 1.43480 \ln NMISG + 0.03341 \ln KISG \\
 (4.335) & (2.37) (3.36) (0.19) \\
 & + 0.16128 \ln USG - 0.06931 Q6567 \\
 & (1.14) (3.49)
 \end{aligned}$$

$R^2 = 0.991$ S.E. = 0.024 D.W. = 1.24
 Sample Period 1959-1972 Fit = 0.992

(X.18) XIPF Branch Output: Processed Foods(a) Primary Factors

$$\begin{aligned}
 (XIPF/XIPF_{-1}) - 0.01 = & 0.63866 (NMIPF/NMIPF_{-1}) \\
 (0.045) & (1.91) \\
 & + 0.10178 (KIPF/KIPF_{-1}) + 0.02025 \frac{XAGT70}{XAGTN}_{-1}
 \end{aligned}$$

$R^2 = 0.304$ S.E. = 0.022 D.W. = 3.00
 Sample Period 1959-1974

(b) Material Inputs

$$(XIPF/XIPF_{-1}) = 0.86264 \quad (NMIPF/NMIPF_{-1}) \\ (2.74) \\ (0.054)$$

$$+ 0.12126 \quad (KIPF/KIPF_{-1}) \\ (1.23)$$

$$+ 0.17662 \quad (UPF/UPF_{-1}) \\ (2.76)$$

$R^2 = 0.379$ S.E. = 0.021 D.W. = 1.84
Sample Period 1960-1972 Fit = 0.995

(X.19) XIT Industrial Output

(a) Aggregation Identity

$$XIT \equiv 0.062 XIEP + 0.060 XICP + 0.056 XIPP + 0.073 XIFM \\ + 0.038 XINF + 0.067 XICM + 0.062 XICH + 0.315 XIMB \\ + 0.069 XIFP + 0.011 XIPA + 0.099 XISG + 0.090 XIPF$$

(b) Aggregate Production Function, No Foreign Capital Term

$$\begin{aligned}
 \ln(XIT/XIT_{-1}) &= 0.33664 (0.845 \frac{\ln(NMI)}{\ln(NMI_{-1})} + 0.155 \frac{\ln(NIET)}{\ln(NIET_{-1})} - 1.) \\
 &\quad (3.24) \\
 &\quad (0.065) \\
 &\quad + 0.57337 (\ln(KIA)/\ln(KIA_{-1}) \\
 &\quad (15.46) \\
 &\quad + 0.09348 (\frac{\ln(XAGT70)}{\ln(XAGTN)} + \frac{\ln(XAGT70_{-1})}{\ln(XAGTN_{-1})} - 2.) \\
 &\quad (7.27)
 \end{aligned}$$

$R^2 = 0.709$ S.E. = 0.005 D.W. 2.32
 Sample Period 1960-1974 Fit = 0.9997

(c) Aggregate Production Function, Capital Disaggregation

$$\begin{aligned}
 \ln(XIT) &= 0.37 (0.845 \ln(NMI-NIET) + 0.155 \ln(NIET)) = \\
 &\quad (0.781) \\
 &\quad - 1.44177 + 0.41735 \ln(KIA-KIW) + 0.11497 \ln(KIW) \\
 &\quad (3.11) \quad (3.62) \quad (1.06) \\
 &\quad - 0.03522 Q6466 + 0.07159 (\frac{\ln(XAGT70)}{\ln(XAGTN)} - 1.) \\
 &\quad (3.66) \quad (0.98)
 \end{aligned}$$

$R^2 = 0.997$ S.E. = 0.014 D.W. = 0.58
 Sample Period 1960-1974 Fit = 0.9974

(x.20) XCRUB Construction Activity, State Enterprises

$$\begin{aligned}
 \ln(XCRUB) &= -7.37635 + 1.08493 \ln(NMC) + 0.06917 \ln(\frac{\ln(KCR_{-1}) + \ln(KCR)}{2}) \\
 &\quad (3.506) \quad (8.09) \quad (9.66) \quad (1.57) \\
 &\quad + 0.23345 \ln(XICM) - 0.01867 QFIN \\
 &\quad (5.74) \quad (2.43)
 \end{aligned}$$

$R^2 = 0.999$ S.E. = 0.009 D.W. = 2.45
 Sample Period 1958-1974

(X.21) XT7R Transport and Communications Output Index

$$\ln XT7R = - 3.30713 + 0.74248 \ln \left(\frac{KTA_{+1} + KTA}{2} \right)$$

(4.29) (3.82) (5.13)

$$+ 0.15759 \ln \left(\frac{NTSPA + NTSPA_{-1}}{2} \right) + 0.62861 \ln KTCUS$$

(1.28) (3.87)

$R^2 = 0.999$ S.E. = 0.012 D.W. = 1.07
Sample Period 1958-1974

(X.22) XDTR Domestic Trade

$$\ln XDTR = - 3.25146 + 0.29108 \ln NMS$$

(4.408) (1.52) (0.69)

$$+ 1.15236 \ln \left\{ \frac{0.27291(XISG+XISG_{-1}) + 0.39034(XIPF+XIPF_{-1})}{2 \cdot (0.27291+0.39034)} \right\}$$

(3.20)

$R^2 = 0.998$ S.E. = 0.015 D.W. = 0.81
Sample Period 1961-1974

(X.23) XSER70 Services

$$\ln XSER70 = - 4.71028 + 0.98524 \ln NMG$$

(4.461) (84.72) (165.)

$$+ 0.1248 \ln \left(\frac{KSER_{+1} + KSER + KHBF_{+1} + KHBF}{2} \right)$$

$R^2 = 0.9995$ S.E. = 0.005 D.W. = 0.37
Sample Period 1960-1974

W. WAGES(W.1) WI* Average Wage, Industry

$$DVWI - DVWI_{-1} = 0.20052 (28.3776 - DVWI_{-1}) + 0.02466 \\ (0.063) \quad (2.59) \quad (0.33)$$

$$+ 1.68906 (QWREF - 2.*.0625) \\ (6.55)$$

$$+ 0.87915 (Q61 - .0625) \\ (2.94)$$

$$R^2 = 0.845 \quad S.E. = 0.281 \quad D.W. = 1.24 \\ \text{Sample Period 1960-1973}$$

Where

$$DVWI = \frac{WI^*/PRC_{-1}}{171.449 XIT/NMI} \quad \frac{(\text{real wage})}{(\text{average product})}$$

(W.2) WAS* Average Wage, State Farms

$$DVWA - DVWA_{-1} = 0.41095 (DHWA - DVWA_{-1}) + 0.45859 \\ (0.779) \quad (3.12) \quad (0.93)$$

$$R^2 = 0.411 \quad S.E. = 1.930 \quad D.W. = 1.77 \\ \text{Sample Period 1959-1974}$$

Where

$$DVWA = \frac{10. WAS^*/PRC_{-1}}{(XAGTN_{-1}/NAT_{-1})} \quad \frac{(\text{real wage})}{(\text{average product})}$$

and

$$DHWA = 61.11470 + 1.75075 (1.-QSH68) (QT50-19.) \\ (56.191) \quad (60.57) \quad (7.32)$$

$$R^2 = 0.793 \quad S.E. = 3.009 \quad D.W. = 0.68 \\ \text{Sample Period 1959-1974}$$

(W.3) WAK* Average Wage, Collective Farms

$$DVWA - DVWA_{-1} = 0.84175 (DHWA - DVWA_{-1}) + 0.24676$$

(1.559) (5.22) (0.45)

$$R^2 = 0.661 \quad S.E. = 1.923 \quad D.W. = 2.48$$

Sample Period 1959-1974

Where

$$DVWA = \frac{10 \cdot WAK^* / PRC_{-1}}{(XAGT70_{-1} / NAT_{-1})} \quad \frac{(\text{real wage})}{(\text{average product})_{-1}}$$

and

$$DHWA = 41.67122 + 3.18046 (1. - QSH68) (QT50-19.)$$

(32.73) (62.50) (20.13)

$$R^2 = 0.967 \quad S.E. = 1.989 \quad D.W. = 2.01$$

Sample Period 1959-1974

(W.4) WC* Average Wage, Construction

$$\frac{WC^*}{WI^*} = 1.10835 + 0.01052 (QT50-20.) (1. - Q690N)$$

(234.98) (12.17)

(1.0675)

$$R^2 = 0.908 \quad S.E. = 0.014 \quad D.W. = 1.55$$

Sample Period 1958-1974

(W.5) WTC* Average Wage, Transport and Communications

$$\frac{WTC^*}{WI^*} = 1.00722 \left(\frac{WTC^*}{WI^*} \right)_{-1} + 0.02539 (Q6162 - 2 \cdot 0625)$$

(516.04) (4.42)

(0.981)

$$R^2 = 0.941 \quad S.E. = 0.008 \quad D.W. = 1.71$$

Sample Period 1959-1974

D. = 0.58

(W.6) WS* Average Wage, Trade and Distribution

$$\frac{WS^*}{WGS^*} = 1.00315 \left(\frac{WS^*}{WGS^*} \right)_{-1} + 0.02056 (Q6668 - 3.*.0625) \\ (387.15) \quad \quad \quad (3.63) \\ (0.855)$$

$$R^2 = 0.893 \quad S.E. = 0.009 \quad D.W. = 1.59 \\ \text{Sample Period 1959-1974} \quad D. = 0.82$$

(W.7) WGS* Average Wage, Government and Services

$$\frac{WGS^*}{WI^*} = 0.98983 \left(\frac{WGS^*}{WI^*} \right)_{-1} + 0.09364 Q65 \\ (259.03) \quad \quad \quad (7.56) \\ (0.978)$$

$$R^2 = 0.889 \quad S.E. = 0.012 \quad D.W. = 1.63 \\ \text{Sample Period 1959-1974} \quad D. = 0.74$$

Supplemental Wage Equations

These equations determine the monthly money wage variables which are used in the Hickman-Lau functions. Sample Period 1959-1972 for Equations (W.8)-(W.24).

(W.8) WAGI* Industry

$$\frac{WAGI^*}{WI^*} = 0.1004 \\ (1166.) \\ (0.1000)$$

$$R^2 = 0.225 \quad S.E. = 0.0003 \quad D.W. = 0.88$$

(W.9) WAGA* Agriculture

$$\frac{WAGA^*}{WAS^*} = 0.08355 \\ (545.) \\ (0.0835)$$

$$R^2 = -0.009 \quad S.E. = 0.0006 \quad D.W. = 2.26$$

(W.10) WAGCON* Construction

$$\frac{WAGCON^*}{WC^*} = 0.08329 + 0.001856 QSH65 \\ (318.) \quad (4.64) \\ (0.0841)$$

$$R^2 = 0.644 \quad S.E. = 0.0007 \quad D.W. = 2.02$$

(W.11) WAGTC* Transport and Communications

$$\frac{WAGTC^*}{WTC^*} = 0.083255 \\ (434.) \\ (0.0833)$$

$$R^2 = 0.031 \quad S.E. = .0007 \quad D.W. = 1.08$$

(W.12) WAGTD* Domestic Trade

$$\frac{WAGTD^*}{WS^*} = 0.08334 - 0.000388 QSH68$$

$$(1446.) \quad (4.40)$$

$$(0.0832)$$

$$R^2 = 0.643 \quad S.E. = .0002 \quad D.W. = 1.79$$

(W.13) WAGE* Economy Average

$$\frac{WAGE^*}{WI^*} = .07675 + .03217 Q69 - 0.0030 QSH65$$

$$(4.34.) \quad (64.3) \quad (11.5)$$

$$(.0778)$$

$$R^2 = 0.998 \quad S.E. = .0005 \quad D.W. = .714$$

BRANCH WAGES (W.14) - (W.24)

Define API - Average Industrial Productivity

$$API = XIT/NMI$$

Define TR - Time Trend 1950 = -18 1968 on = 0

$$TR = (1-QSH68) * (QT50-19.)$$

Define TSH - Shift Variable 1 to 1967 1968 on = 0

$$TSH = 1.-QSH68$$

(W.14) WAGFM* Ferrous Metallurgy

$$\frac{WAGFM^*}{WAGI^*} = .05544 + .04718 (XIFM/NMIFM)/API - .02117 TR$$

$$(.208) \quad (4.15) \quad (9.6)$$

$$(1.2055)$$

$$R^2 = .951 \quad S.E. = .0108 \quad D.W. = 2.20$$

(W.15) WAGCP* Coal Products

$$\frac{WAGCP^*}{WAGI^*} = 1.7903 - .11490 TSH - .00469 TR$$

$$(81.9) \quad (4.48) \quad (1.21)$$

$$R^2 = .864 \quad S.E. = .0301 \quad D.W. = 1.74$$

(W.16) WAGPG* Petroleum & Gas

$$\frac{WAGPG^*}{WAGI^*} = 1.0279 - .00898 \text{ TR}$$

(951) (37.5)
(1.0568)

$$R^2 = .992 \quad S.E. = .0028 \quad D.W. = 1.27$$

(W.17) WAGEP* Electric Power

$$\frac{WAGEP^*}{WAGI^*} = 1.0295 - .00373 \text{ TR} - .08779 \text{ Q5960}$$

(380) (4.72) (12.3)
(1.0290)

$$R^2 = .941 \quad S.E. = .0069 \quad D.W. = 1.34$$

(W.18) WAGMB* Machine Building & Metal Working

$$\frac{WAGMB^*}{WAGI^*} = .47923 + .19898 (XIMB/NMIMB)/API + .00441 \text{ TR}$$

(5.45) (6.01) (3.76)
(1.0132)

$$R^2 = .82 \quad S.E. = .0061 \quad D.W. = 1.11$$

(W.19) WAGCH* Chemicals

$$\frac{WAGCH^*}{WAGI^*} = 1.0293 - .00271 \text{ TR}$$

(246) (2.92)
(1.0380)

$$R^2 = .417 \quad S.E. = .0110 \quad D.W. = 1.72$$

(W.20) WAGFP* Forest Products

$$\frac{WAGFP^*}{WAGI^*} = .69099 + .02636 (XIFP/NMIFP)/API + .00996 \text{ TR}$$

(4.10) (1.89) (10.2)
(.9805)

$$R^2 = .906 \quad S.E. = .1089 \quad D.W. = 1.40$$

(W.21) WAGP* Paper

$$\frac{WAGP^*}{WAGI^*} = .97465 - .00621 \text{ TR}$$

(156) (4.50)
(.9946)

$$R^2 = .628 \quad S.E. = .0164 \quad D.W. = 1.22$$

(W.22) WAGCM* Construction Materials

$$\frac{WAGCM^*}{WAGI^*} = .85587 + .00696 (XICM/NMICM)/API + .00181 \text{ TR} + .06498 Q7072$$

(9.97) (1.34) (1.14) (9.11)
(.9718)

$$R^2 = .966 \quad S.E. = .0072 \quad D.W. = 1.30$$

(W.23) WAGSG* Soft Goods

$$\frac{WAGSG^*}{WAGI^*} = .60873 + .02719 (XISG/NMISG)/API + .00495 \text{ TR} - .03348 Q5960$$

(8.75) (2.40) (5.08) (4.48)
(.7598)

$$R^2 = .924 \quad S.E. = .0070 \quad D.W. = .823$$

(W.24) WAGPF* Processed Foods

$$\frac{WAGPF^*}{WAGI^*} = .88688 + .00699 \text{ TR} - .03112 Q5960$$

(306) (8.27) (4.07)
(.86)

$$R^2 = .957 \quad S.E. = .0073 \quad D.W. = 1.91$$

Z. INCOMES(Z.1) ZGW* Gross Earnings, State Employees

$$ZGW^* = 1.02077 ZWH^* \\ (102.18) (621.13)$$

$$R^2 = 1.000 \quad S.E. = 0.72 \quad D.W. = 0.38 \\ \text{Sample Period 1958-1972}$$

$$\text{Where: } ZWH^* \equiv (NMI \cdot WI^* + NMC \cdot WC^* + NMTC \cdot WTC^* \\ + NMS \cdot WS^* + NMG \cdot WGS^* + 1000. \cdot NASOV \cdot WAS^*)/10.^6$$

(Z.2) ZWK* Collective Farm Wage Payments

$$ZWK^* \equiv NAKOL \cdot WAK^*$$

(Z.3) ZSAG* Income from Sale of Farm Products

$$\ln ZSAG^* = -4.24559 + 0.71561 (\ln PAFC70 + \ln XAGT70) \\ (1.968) (8.39) (12.30)$$

$$- 1.27292 \left(\frac{XAGT70}{XAGTN} - 1 \right) - 0.18380 Q69 \\ (4.59) (2.85)$$

$$R^2 = .922 \quad S.E. = 0.061 \quad D.W. = 1.97 \\ \text{Sample Period 1958-1974}$$

(Z.4) ZMPA* Military Pay and Allowances

$$ZMPA^* \equiv NMD9 \cdot WDF^*$$

(Z.5) ZTG* Gross Household Money Income

$$ZTG^* \equiv ZGW^* + ZWK^* + ZSAG^* + ZMPA^* + BTRAN^* + ZPCP^*9$$

(Z.6) ZTD* Disposable Household Money Income

$$ZTD^* \equiv ZTG^* - TAXES^* - TDUES^*9 - TINSP^*9$$

(Z.7) ZIK60 Agricultural Income in Kind

$$100. \frac{ZIK60}{XAGTN} \equiv 18.81209 + 24.31700 \left(\frac{XAGT70}{XAGTN} - 1 \right)$$

(55.17) (4.88)
(18.12)

$$R^2 = 0.725 \quad S.E. = 1.03 \quad D.W. = 2.12$$

Sample Period 1956-1966

(Z.8) ZD70 Real Disposable Household Income

$$ZD70 \equiv 100. ZTD*/PRC + ZIK60/0.76$$

(Z.9) Gross Profits, National Economy(a) Non-Residual Version

$$ZPG*/ZPG*_{-1} = 1.05012 + 0.16708 Q6668 + 0.12411 Q70$$

(1.110) (67.40) (6.16) (2.87)

$$+ 0.32122 \left(\frac{XAGT70}{XAGTN} - 1 \right) + 0.06636 QSH65$$

(1.65) (2.64)

$$R^2 = 0.817 \quad S.E. = 0.038 \quad D.W. = 3.01$$

Sample Period 1959-1974

(b) Residual Version

$$ZPG* = 0.9363 GNP3.PGNP3 - ZD70.PRC/100. - ZDT*$$

$$- TOSS* - TPOP*$$

(Z.10) Amoritization Funds, National Economy

$$ZDT*/ZDT*_{-1} = 0.53466 + 0.52239 KSUM/KSUM_{-1}$$

(1.88) (2.00)
(1.119)

$$+ 0.26786 Q63 + 0.01935 (QSH67 - QSH67_{-1})$$

(33.79) (1.59)

$$R^2 = 0.994 \quad S.E. = 0.007 \quad D.W. = 1.32$$

Sample Period 1959-1974
209

P. PRICES(P.1) PNF70 State Retail Price, Non-Food Goods

$$\frac{PNF70}{1+RTTD9} - \left(\frac{PNF70}{1+RTTD9} \right)_{-1} = -0.10904 + 1.56521 Q6668$$

(0.48) (2.45)

$$+ 0.30613 (PWIQN - \left(\frac{PNF70}{1+RTTD9} \right)_{-1})$$

$$R^2 = 0.683 \quad S.E. = 0.727 \quad D.W. = 1.39$$

Sample Period 1960-1973

Where

PWIQN \equiv K.WIQN (marked-up industrial wage)

$$WIQN = \frac{WI^*}{17144.9 XIT/NMI}$$

$$K = 2.78220 + 0.25912 QLT28 - 0.14517 QSH68$$

(4.77) (1.59) (3.91)

Estimated over sample period 1959-1973

(P.2) PIRF70 State Retail Price, Food Goods

$$\frac{PIRF70}{1+RTTD9} - \left(\frac{PIRF70}{1+RTTD9} \right)_{-1} = 0.72739 + 1.72614 Q6668$$

(1.087) (3.01) (3.29)

$$+ 0.25991 (.85 PWIQN + .15 PAFC70_{-1})$$

$$- \left(\frac{PIRF70}{1+RTTD9} \right)_{-1}$$

$$R^2 = 0.610 \quad S.E. = 0.800 \quad D.W. = 2.41$$

Sample Period 1960-1973

(P.3) PAFC70 "Negotiated" Agricultural Price

(Food sold by collective farms to consumer cooperatives.)

$$PAFC70/PAFC70_{-1} = 1.05715 + .09017 Q69 - 0.1527 \frac{MGRDW\$}{PGR9}$$

$$- 0.45472 \left(\frac{XAGT70_{-1}}{XAGTN_{-1}} - 1. \right)$$

 $R^2 = 0.521$ S.E. = 0.045 D.W. = 2.26
 Sample Period 1961-1974
(P.4) PFCC Consumption Price, Food

$$PFCC \equiv .875 PIRF70 + .125 PAFC70$$

(P.5) PRC Consumption Price, Total

$$PRC \equiv .60 PFCC + .40 PNF70$$

(P.6) PIWL70 Wholesale Price, Light Industry

$$PIWL70 - PIWL70_{-1} = - 0.23590 - 1.82417 Q67 + 2.95478 Q73$$

$$(0.74) \quad (2.19) \quad (3.55)$$

$$(0.162)$$

$$+ .09382 (PWIQN - PIWL70_{-1})$$

$$(1.38)$$

 $R^2 = .676$ S.E. = .798 D.W. = 2.06
 Sample Period 1960-1973
(P.7) PIWH70 Wholesale Price, Heavy Industry

$$PIWH70 - PIWH70_{-1} = - 0.56813 - 3.97732 Q61 + 14.20453 Q67$$

$$(1.57) \quad (3.04) \quad (10.86)$$

$$(0.162)$$

 $R^2 = .924$ S.E. = 1.256 D.W. = 1.22
 Sample Period 1960-1973

(P.8) PII Investment Deflator, Industry

$$\text{PII} = 0.81500 \text{ PXCON9} + 0.20588 \text{ PIWH70}$$

$$(87.9) \quad (13.42) \quad (3.73)$$

$$R^2 = .934 \quad \text{S.E.} = 1.62 \quad \text{D.W.} = 0.36$$

Sample Period 1957-1972

(P.9) PIC Investment Deflator, Construction

$$\text{PIC} = 0.32125 \text{ PXCON9} + 0.68619 \text{ PIWH70}$$

$$(91.1) \quad (2.40) \quad (5.64)$$

$$R^2 = .727 \quad \text{S.E.} = 3.56 \quad \text{D.W.} = 2.13$$

Sample Period 1957-1972

(P.10) PIT Investment Deflator, Transport and Communications

$$\text{PIT} = 0.67878 \text{ PXCON9} + 0.32086 \text{ PIWH70}$$

$$(87.0) \quad (4.10) \quad (2.13)$$

$$R^2 = .699 \quad \text{S.E.} = 4.40 \quad \text{D.W.} = 0.34$$

Sample Period 1957-1972

(P.11) PIS Investment Deflator, Government, Trade, Services, etc.
(excl. Housing)

$$\text{PIS} = 0.78015 \text{ PXCON9} + 0.24469 \text{ PIWH70}$$

$$(88.6) \quad (11.04) \quad (3.81)$$

$$R^2 = .899 \quad \text{S.E.} = 1.88 \quad \text{D.W.} = 0.36$$

Sample Period 1957-1972

(P.12) PIHS Investment Deflator, Housing

$$\text{PIHS} = 0.82329 \text{ PXCON9} + 0.19220 \text{ PIWH70}$$

$$(87.3) \quad (19.76) \quad (5.08)$$

$$R^2 = .971 \quad \text{S.E.} = 1.11 \quad \text{D.W.} = 0.53$$

Sample Period 1957-1972

(P.13) PIA Investment Deflator, Agriculture

$$\begin{aligned} \text{PIA} &= 0.34481 \text{ PXCON9} + 0.06897 \text{ PIWH70} + 58.03934 \\ &\quad (93.5) \quad (22.19) \quad \quad \quad (3.00) \quad \quad \quad (30.86) \end{aligned}$$

$$\begin{aligned} R^2 &= .983 & \text{S.E.} &= 0.410 & \text{D.W.} &= 1.16 \\ \text{Sample Period} & 1957-1972 \end{aligned}$$

(P.14) PGNP3 GNP Deflator

$$\begin{aligned} \text{PGNP3} &= 0.77346 + 0.01086 \text{ QT50} - 0.13101 \text{ QPR67} \\ &\quad (0.881) \quad (23.66) \quad \quad (7.58) \quad \quad \quad (8.68) \end{aligned}$$

$$\begin{aligned} R^2 &= 0.989 & \text{S.E.} &= 0.013 & \text{D.W.} &= 1.70 \\ \text{Sample Period} & 1958-1974 \end{aligned}$$

Actual PGNP defined by the identity:

$$\begin{aligned} \text{PGNP} &= \text{GNP}^{-1} \left(\text{ZD70} \cdot \frac{\text{PRC}}{100} + \text{ZPG}^* + \text{ZDT}^* + \text{TOSS}^* \right. \\ &\quad \quad \quad \left. + \text{TPOP}^* \right) / .9363 \end{aligned}$$

C. CONSUMPTION(C.1) CR70 Total Consumption(C.1a) Identity Determination

$$CR70 \equiv CRF70 + CRND70 + CRD70 + CRS70$$

(C.1b) Direct Determination

$$\frac{CR70}{ZD70} = 1.14566 - 0.60556 (QLT28-3.8067) QSH72_{-1} \\ (5.76) \quad (12.25) \\ (1.279)$$

$$- 0.39815 \frac{ZD70}{ZD70_{-1}} + 1.20099 \left(\frac{.27291 XISG + .39034 XIPF}{ZD70} \right) \\ (3.09) \quad (4.44)$$

$$R^2 = 0.986 \quad S.E. = 0.015 \quad D.W. = 1.84 \\ \text{Sample Period 1956-1974}$$

(C.1c) Residual Determination

$$CR70 \equiv GNP3 - GEUSUM3 - .001 (ETW70-MTW70) - GRESEM3$$

(C.2) CRF70 Food Consumption(C.2a) Direct Determination

$$\frac{CRF70}{ZD70} = 1.56793 - 0.33992 \frac{ZD70}{ZD70_{-1}} - 0.95585 \frac{PFCC}{PNF70} \\ (5.45) \quad (3.34) \quad (4.24) \\ (0.706)$$

$$+ 0.30920 \frac{XAGT70}{ZD70} + 1.13451 \frac{0.39034 XIPF}{ZD70} \\ (2.28) \quad (4.24)$$

(C.2a) Direct Determination (Continued)

$R^2 = 0.987$ S.E. = 0.013 D.W. = 1.37
Sample Period 1956-1974

(C.2b) Share Determination

$$\begin{aligned}
 \frac{CRF70}{CR70} &= 0.74592 \left(\frac{CRF70}{CR70} \right)_{-1} + 0.33304 \left(\frac{CRND70}{CR70} \right)_{-1} \\
 (0.547) & \\
 &+ 0.55263 \left(\frac{CRD70}{CR70} \right)_{-1} + 0.96972 \left(\frac{CRS70}{CR70} \right)_{-1} \\
 &- 0.21494 \frac{PFCC}{PNF70} + 0.00443 \frac{1.71449XIT}{ZD70} \\
 &+ 0.18438 \frac{100BDN*9/PIWH70}{ZD70} + 0.07783 \frac{XAGT70-1}{ZD70}
 \end{aligned}$$

$R^2 = 0.978$ S.E. = 0.005 D.W. = 2.42
Sample Period 1957-1974 D. = 1.19

(C.2c) Share Determination, Non-Services

$$\begin{aligned}
 \frac{CRF70}{CRNS70} &= 1.03912 \left(\frac{CRF70}{CRNS70} \right)_{-1} + 0.65294 \left(\frac{CRND70}{CRNS70} \right)_{-1} \\
 (0.671) & \\
 &+ 0.31635 \left(\frac{CRD70}{CRDS70} \right)_{-1} - 0.19691 \frac{PFCC}{PNF70} \\
 &- 0.54820 \frac{0.27291XISG}{ZD70} + 0.05976 \frac{XAGT70}{ZD70} \\
 &+ 0.44571 \frac{100.BDN*9/PIWH70}{ZD70}
 \end{aligned}$$

(C.2c) Share Determination, Non-Services (Continued)

$R^2 = 0.978$ S.E. = 0.006 D.W. = 2.24
 Sample Period 1957-1974 D. = 0.63

(C.3) CRND70 Softgoods

(C.3a) Direct Determination

$$\frac{CRND70}{ZD70} = -0.04455 + 0.08357 \frac{PFCC}{PNF70} + 1.29545 \frac{0.27291 XISG}{ZD70} \\ (0.57) \quad (1.68) \quad (6.02)$$

$R^2 = 0.854$ S.E. = 0.006 D.W. = 1.38
 Sample Period 1956-1974

(C.3b) Share Determination

$$\frac{CRND70}{CR70} = 0.21046 \frac{(CRF70)}{CR70} -1 + 0.74858 \frac{(CRND70)}{CR70} -1 \\ (2.16) \quad (3.37)$$

$$-0.25518 \frac{(CRD70)}{CR70} -1 - 0.50359 \frac{(CRS70)}{CR70} -1 \\ (1.17) \quad (1.72)$$

$$+ 0.13329 \frac{PFCC}{PNF70} - 0.06441 \frac{1.71449 XIT}{ZD70} \\ (1.50) \quad (1.94)$$

$$- 0.03876 \frac{100.BDN*9/PIWH70}{ZD70} - 0.03929 \frac{XAGT70}{ZD70} -1 \\ (0.33) \quad (1.07)$$

$R^2 = 0.895$ S.E. = 0.003 D.W. = 2.25
 Sample Period 1957-1974 D. = 1.59

(C.3c) Share Determination, Non-Services

$$\frac{\text{CRND70}}{\text{CRNS70}} = 0.00327 \left(\frac{\text{CRF70}}{\text{CRNS70}} \right)_{-1} + 0.38969 \left(\frac{\text{CRND70}}{\text{CRNS70}} \right)_{-1} \\ (0.225)$$

$$- 0.09038 \left(\frac{\text{CRD70}}{\text{CRNS70}} \right)_{-1} + 0.11796 \frac{\text{PFCC}}{\text{PNF70}}$$

$$+ 0.42829 \frac{0.27291 \text{ XISG}}{\text{ZD70}} - 0.04094 \frac{\text{XAGT70}}{\text{ZD70}}_{-1}$$

$$- 0.17759 \frac{100 \cdot \text{BDN}^* 9 / \text{PIWH70}}{\text{ZD70}} \\ (1.38)$$

$R^2 = 0.859$ S.E. = 0.004 D.W. = 1.90
 Sample Period 1957-1974 D. = *

(C.4) CRD70 Durables(C.4a) Direct Determination

$$\frac{\text{CRD70}}{\text{ZD70}} = 1.55588 + 1.42781 \frac{\text{QT50}}{100.} - 0.48443 \text{ QLT28} \\ (3.91) \quad (4.23) \quad (3.87) \\ (0.105)$$

$$+ 0.51143 \frac{0.40624 \text{ XIMB}}{\text{ZD70}} - 0.11888 \frac{100 \cdot \text{BDN}^* 9 / \text{PIWH70}}{\text{ZD70}} \\ (5.20) \quad (2.20)$$

$R^2 = 0.975$ S.E. = 0.003 D.W. = 1.09
 Sample Period 1957-1974

(C.4b) Share Determination

$$\begin{aligned}
 \frac{CRD70}{CR70} = & 0.016681 \left(\frac{CRF70}{CR70} \right)_{-1} + 0.03548 \left(\frac{CRND70}{CR70} \right)_{-1} \\
 (0.084) & \\
 & + 0.75690 \left(\frac{CRD70}{CR70} \right)_{-1} - 0.13078 \left(\frac{CRS70}{CR70} \right)_{-1} \\
 & + 0.060524 \frac{PFCC}{PNF70} + 0.001138 \frac{1.71449 XIT}{ZD70} \\
 & - 0.23548 \frac{100 BDN*9/PIWH70}{ZD70} - 0.02052 \frac{XAGT70}{ZD70}
 \end{aligned}$$

$R^2 = 0.988$ S.E. = 0.003 D.W. = 2.02
 Sample Period 1957-1974 D. = 0.09

(C.4c) Share Determination, Non-Services

$$\begin{aligned}
 \frac{CRD70}{CRNS70} = & - 0.04239 \left(\frac{CRF70}{CRNS70} \right)_{-1} - 0.04267 \left(\frac{CRND70}{CRNS70} \right)_{-1} \\
 (0.103) & \\
 & + 0.77406 \left(\frac{CRD70}{CRNS70} \right)_{-1} + 0.07896 \frac{PFCC}{PNF70} \\
 & + 0.11990 \frac{0.27291 XISG}{ZD70} - 0.01881 \frac{XAGT70}{ZD70} \\
 & - 0.26811 \frac{100 BDN*9/PIWH70}{ZD70}
 \end{aligned}$$

$R^2 = 0.987$ S.E. = 0.004 D.W. = 2.17
 Sample Period 1957-1974 D. = 0.59

(C.5) CRS70 Services(C.5a) Direct Determination

$$\begin{aligned} \frac{\text{CRS70}}{\text{ZD70}} = & 0.08595 - 0.17694 \frac{\text{QT50}}{100.} + 0.04295 (\text{QLT28} - 3.8067) (1. - \text{QSH68}) \\ & (1.58) \quad (1.05) \quad (0.73) \\ & (0.237) \\ & + 0.72225 \frac{.43868 \text{ XSER70}}{\text{ZD70}} \\ & (7.36) \end{aligned}$$

$R^2 = 0.973$ S.E. = 0.004 D.W. = 1.13
 Sample Period 1956-1974

(C.5b) Share Determination

$$\begin{aligned} \frac{\text{CRS70}}{\text{CR70}} = & .02695 \left(\frac{\text{CRF70}}{\text{CR70}} \right)_{-1} - 0.11714 \left(\frac{\text{CRND70}}{\text{CR70}} \right)_{-1} \\ & (0.48) \quad (0.92) \\ & (0.185) \\ & - 0.05431 \left(\frac{\text{CRD70}}{\text{CR70}} \right)_{-1} + 0.66464 \left(\frac{\text{CRS70}}{\text{CR70}} \right)_{-1} \\ & (0.43) \quad (3.94) \\ & + 0.02112 \frac{\text{PFCC}}{\text{PNF70}} + 0.05884 \frac{1.71449 \text{ XIT}}{\text{ZD70}} \\ & (0.41) \quad (3.08) \\ & + 0.08986 \frac{100. \text{BDN}^* 9 / \text{PIWH70}}{\text{ZD70}} - 0.01802 \frac{\text{XAGT70} - 1}{\text{ZD70}} \end{aligned}$$

$R^2 = 0.949$ S.E. = 0.002 D.W. = 3.24
 Sample Period 1957-1974 D. = 3.77

(C.5c) Supply Determination

$$\begin{aligned} CRS70 &= 0.92528 (.43868 XSER70) - 0.35615 \\ (32.53) &\quad (71.78) \quad \quad \quad (0.75) \end{aligned}$$

$$\begin{aligned} R^2 &= 0.997 & S.E. &= 0.51 & D.W. &= 0.76 \\ \text{Sample Period} & 1956-1974 \end{aligned}$$

(C.6) CRNS70 Consumption, Non-Services

(C.6a) Income Determination

$$\begin{aligned} \frac{CRNS70}{ZD70} &= 0.28946 + 0.73564 \frac{XAGT70 - 1}{ZD70} \\ (3.10) &\quad (7.43) \end{aligned}$$

(1.042)

$$+ 1.04188 \left(\frac{.27291 XISG + .39034 XIPF}{ZD70} \right)$$

$$\begin{aligned} R^2 &= 0.955 & S.E. &= 0.022 & D.W. &= 1.67 \\ \text{Sample Period} & 1956-1974 \end{aligned}$$

(C.6b) Residual or Identity Determination

$$CRNS70 \equiv CR70 - CRS70$$

T. BUDGET REVENUES

$$DDF \equiv \frac{BD^*9}{BGN^*} \quad \text{Defense Share}$$

$$DPRC \equiv \frac{PRC}{PRC_{-1}} - 1. \quad \text{Consumption Price Deflator, Rate of Change}$$

$$ZW^* \equiv ZGW^* + ZWK^* \quad \text{Money Wage Income}$$

(T.1) TDP* Deductions from Gross Profits

$$\frac{TDP^*}{ZPG^*} = 1.02975 \text{ RTDP9} + 1.22629 \text{ (DDF-0.1275)} - 0.08761 \text{ Q6768} \\ (80.92) \quad (2.87) \quad (3.33) \\ (0.718)$$

$$R^2 = 0.844 \quad \text{S.E.} = 0.034 \quad \text{D.W.} = 1.30 \\ \text{Sample Period 1958-1974}$$

(T.2) TT* Turnover Tax

$$\frac{TT^*}{ZW^*} = 0.67775 (1. - QSH68) + 0.32344 \text{ QSH68} \\ (49.80) \quad (76.48) \\ (0.392)$$

$$- 0.01781 (1. - QSH68) * QT50 + 0.85416 \text{ DPRC}_{-1} \\ (18.76) \quad (3.88)$$

$$- 0.63475 (\text{DDF} - 0.1275) \\ (4.03)$$

$$R^2 = 0.987 \quad \text{S.E.} = 0.008 \quad \text{D.W.} = 2.32 \\ \text{Sample Period 1958-1974}$$

(T.3) TOSS* Other Revenues from Social Sector (including Social Insurance Deductions)

$$\frac{\text{TOSS}^*}{\text{ZPG}^*} = 0.54012 + 0.14276 \text{ Q6165} + 0.30279 \text{ Q5860} \\ (26.89) \quad (6.01) \quad (11.68) \\ (0.608) \\ - 0.06603 \text{ Q6672} \\ (2.90)$$

 $R^2 = 0.969 \quad S.E. = 0.028 \quad D.W. = 2.96$

Sample Period 1958-1974

(T.4) TSD* Social Insurance Deductions

$$\frac{\text{TSD}^*}{\text{ZW}^*} = 0.05730 - 0.001283 \text{ Q6768} \\ (491.00) \quad (4.15) \\ (0.057)$$

 $R^2 = 0.592 \quad S.E. = 0.004 \quad D.W. = 0.72$

Sample Period 1961-1974

(T.5) TPOP* Taxes on the Population

$$\frac{\text{TPOP}^*}{\text{ZW}^*} = 0.09226 + 0.01759 \text{ Q5859} - 0.01203 \text{ Q6467} \\ (97.64) \quad (7.30) \quad (6.57) \\ (0.092)$$

 $R^2 = 0.896 \quad S.E. = 0.003 \quad D.W. = 1.39$

Sample Period 1958-1974

(T.6) TAXES* Personal Taxes (for Disposable Income)

$$\text{TAXES}^* = \text{TPOP}^* + \text{TAX}^* 9$$

(T.7) TR* Total Revenues, State Budget

$$TR^* \equiv TDP^* + TT^* + TOSS^* + TPOP^*$$

B. STATE BUDGET OUTLAYS

$DDF \equiv \frac{BD^*9}{BGN^*} - 0.126$ Defense Share, Deviation from Mean

$DWG \equiv \frac{WGS^*}{WGS^*_{-1}} - 1.03433$ Rate of Change of Government Wage, Deviation from Mean

Q6768 Industrial Price Reform Dummy

Q65 Governmental Financial Reorganization

(B.1) BF* Financing of the National Economy

$\frac{BF^*}{BF^*_{-1}} = 1.06561 - 0.11691 (Q61-0.0625) + 0.06702 Q6768$
(119.64) (3.50) (2.74)

(1.082)

+ 0.12259 Q70
(3.67)

$R^2 = 0.747$ S.E. = 0.032 D.W. = 2.86
Sample Period 1959-1974

(B.2) BSC* Social and Cultural Measures (including Science)

$\frac{BSC^*}{BSC^*_{-1}} = 1.08271 + 0.56345 DWG - 0.01749 Q7175$
(376.86) (7.09) (3.04)

(1.078)

$R^2 = 0.830$ S.E. = 0.010 D.W. = 1.68
Sample Period 1959-1974

(B.3) BNAUK* Science

$$\frac{BNAUK^*}{BNAUK^*_{-1}} = 1.05050 - 0.008985 (QT50-23.) QSH72$$

$$(134.69) \quad (8.24)$$

$$(1.102)$$

$R^2 = 0.829$ S.E. = 0.019 D.W. = 2.50
Sample Period 1959-1974

(B.4) BAD* Administration

$$\frac{BAD^*}{BAD^*_{-1}} = 1.02362 + 1.23163 DWG + 0.04589 Q6669$$

$$(122.16) \quad (5.41) \quad (2.83)$$

$$(1.038)$$

$R^2 = 0.751$ S.E. = 0.028 D.W. = 2.81
Sample Period 1960-1974

(B.5) BRES* Expenditure Residual

$$\frac{BRES^*}{BRES^*_{-1}} = 1.06512 - 0.41976 (Q63+Q67-0.133)$$

$$(33.83) \quad (4.48)$$

$$(1.065)$$

$$+ 0.56826 (Q63_{-1} + Q69 - 0.133)$$

$$(6.06)$$

$R^2 = 0.848$ S.E. = .122 D.W. = 1.22
Sample Period 1960-1974

(B.6) BGN* Total Expenditures

$$BGN^* \equiv BF^* + BSC^* + BAD^* + BRES^* + BD^*9$$

(B.7) BTRAN* Transfer Payments (for Disposable Income)

$$\frac{BTRAN^*}{BTRAN^* -1} = 1.08962 + 0.58739 DWG + 0.45132 \frac{XAGT70}{XAGTN} -1.) \\ (142.71) \quad (2.90) \quad (3.88) \\ (1.076)$$

$$R^2 = 0.698 \quad S.E. = 0.025 \quad D.W. = 2.55 \\ \text{Sample Period 1959-1974}$$

(B.8) BRESDEV Index of Research and Development Expenditures
(Science from Budgetary and Non-Budgetary Financing)

$$\frac{BRESDEV}{BRESDEV -1} -1. = 0.24665 - 0.000757 QT50 \\ (12.52) \quad (6.54) \\ (0.109) \\ - 0.05106 (Q6567 + Q68) \\ (4.14)$$

$$R^2 = 0.839 \quad S.E. = 0.021 \quad D.W. = 1.82 \\ \text{Sample Period 1958-1973}$$

(B.9) BADMIN Index of State Administrative Expenditures

$$\frac{BADMIN}{BADMIN -1} -1. = 0.02994 + 0.20913 \frac{BAD^*}{BAD^* -1} -1.) \\ (7.64) \quad (3.46) \\ (0.0385)$$

$$R^2 = 0.500 \quad S.E. = 0.0114 \quad D.W. = 2.09 \\ \text{Sample Period 1960-1973}$$

(B.10) BDT* Total Defense and State Reserves, Current Ruble

$$BDT^* \equiv BD^*9 + BDR^*9 + BDSR^*9$$

(B.11) BDT70 Defense and State Reserves, 1970 Rubles

$$\begin{aligned} BDT70 &\equiv \frac{5.320}{3.8} NMD9 + BDSR*9 \\ &+ 100.BDN*9/PIWH70 \\ &+ BDR*9/(.2 \frac{WGS*}{1572} + .8 \frac{PIWH70}{100.}) \end{aligned}$$

E. Exports(E.1) ERMCM* Export of Raw Materials and Semifabricates to CMEA

$$100 \frac{\text{ERMCM*}}{\text{PERMCM9}} = - 937.22 + 30.983 \text{ YCMEA9}$$

(3.63) (15.5)
(3098)

$$- 13.364 \{100 \left(\frac{\text{PRMW9}}{\text{PTW9}} - \frac{\text{PRMW9}_{-1}}{\text{PTW9}_{-1}} \right)$$

(1.26)

$$- (\text{PERMCM9} - \text{PERMCM9}_{-1})\}$$

$R^2 = 0.964$ S.E. = 195 D.W. = 1.23
Sample Period 1961-1973

(E.2) EMACM* Exports of Machinery, to CMEA

$$\text{EMACM*} = - 712.392 + 0.658452 \text{ ERMCM*} - 125.552 \text{ Q4590}$$

(2674) (10.65) (26.57) (4.65)

$R^2 = 0.985$ S.E. = 66 D.W. = 1.51
Sample Period 1960-1973

(E.3) EGRCM* Exports of Grain, to CMEA

$$\frac{\text{EGRCM*}}{\text{NPOP9}} = 2.06403 + 2.45125 * \left(\frac{\text{XGR}}{\text{NPOP9}} - \frac{\text{XGRCM9}}{\text{NCM9}} \right)$$

(10.97) (3.49)
(1.09)

$$+ 3.3278 \left(\frac{\text{XGR}_{-1}}{\text{NPOP9}_{-1}} - \frac{\text{XGRCM9}_{-1}}{\text{NCM9}_{-1}} \right)$$

$$+ 2.23734 \frac{\text{GRSTK}}{\text{NPOP9}}$$

(2.99)

$R^2 = 0.808$ S.E. = 0.14 D.W. = 2.29
Sample Period 1960-1972

Where:

$$\text{GRSTK} \equiv \sum_{I=1}^3 (\text{XGR}_{-I} - \text{XGRPK}_{-I})$$

(E.4) ECOCM* Exports of Consumption Goods; other than Grain

$$ECOCM* = 164.554 + 4.51039 XAGT70_{-1} - 3.78446 XGRCM9 \\ (254.) \quad (2.19) \quad (1.85) \quad (1.60)$$

$$R^2 = 0.239 \quad S.E. = 38 \quad D.W. = 1.03 \\ \text{Sample Period 1960-1973}$$

(E.5) ETCM* Total Exports to CMEA

$$ETCM* \equiv ERMCM* + EMACM* + EGRCM* + ECOCM* + EUSCM*9$$

(E.6) ENETCM* Balance of Trade with CMEA

$$ENETCM* \equiv ETCM* - MTMCM*$$

(E.7) ENFDW\$ Non-food Exports to the Developed West

$$\frac{ENFDW\$}{ENFDW\$_{-1}} - 1. = - 0.07584 + 0.27125 \left(\frac{MTDW\$ - ENETDW\$_{-1}}{MTDW\$_{-1}} - 1. \right) \\ + 1.27199 \left(\frac{WTDW9 \cdot PENFDW9}{WTDW9_{-1} \cdot PENFDW9_{-1}} - 1. \right)$$

$$R^2 = .820 \quad S.E. = 0.083 \quad D.W. = 1.34 \\ \text{Sample Period 1961-1973}$$

(E.8) EGRDW\$ Grain Exports to the DW

$$\frac{100 EGRDW\$}{PGR9 NPOP9} = 1.73703 - 3.88386 \frac{XGRWE9}{NWE9} \\ (0.217) \quad (5.99) \quad (4.92)$$

$$+ 2.06302 \frac{GRSTK}{NPOP9} \\ (4.74)$$

$$R^2 = 0.786 \quad S.E. = 0.091 \quad D.W. = 1.98 \\ \text{Sample Period 1960-1972}$$

Where:

GRSTK is defined below (E.3)

(E.9) EFODW\$ Export of Food other than Grain to the DW

$$EFODW\$ = - 132.72 + 3.22044 XAGT70_{-1}$$

$$(86.5) \quad (3.28) \quad (5.48)$$

$$R^2 = 0.714 \quad S.E. = 21 \quad D.W. = 1.29$$

Sample Period 1960-1973

(E.10) ETDW\$ Total Exports to the Developed West

$$ETDW\$ \equiv ENFDW\$ + EGRDW\$ + EFODW\$$$

(E.11) ENETGR Net Balance of Grain Trade

$$ENETGR \equiv 1.1111 EGRCM^* + \frac{100}{PGR9} (EGRDW\$ + EGRLDC\$ - MGRDW\$)$$

(E.12) ENETDW\$ Balance of Trade with the DW

$$ENETDW\$ \equiv ETDW\$ - MTDW\$$$

(E.13) ETLDC\$ Total Exports to the Less Developed Countries

$$ETLDC\$ = - 137.601 + 0.213556 * WTLDC9$$

$$(1035) \quad (1.54) \quad (3.63)$$

$$+ 0.339775 * ETLDC\$_{-1}$$

$$(1.51)$$

$$R^2 = 0.954 \quad S.E. = 93 \quad D.W. = 2.07$$

Sample Period 1961-1973

$$D. = 0.22$$

(E.14) EGRLDC\$ Exports of Grain to the LDC's

$$\frac{EGRLDC\$ * 100}{NPOP9 * PGR9} = 2.47943 + 1.42838 * \frac{GRSTK}{NPOP9}$$

$$(2.09) \quad (2.42)$$

$$(0.33)$$

$$- 9.95524 * \frac{XGRLDC9_{-1}}{NLDC9_{-1}}$$

$$(1.76)$$

$$R^2 = 0.404 \quad S.E. = 0.12 \quad D.W. = 1.57$$

Sample Period 1960-1972

(E.14) EGRLDC\$ Exports of Grain to the LDC's (Continued)

Where GRSTK defined below (E.3).

(E.15) EOSC\$ Exports to Yugoslavia and the Far Eastern Socialist Countries

$$EOSC\$ = - 174.24 + 4.26099 * WT9 + 0.38366 * EOSC\$_{-1}$$

(690) (2.94) (2.69) (1.44)

$$R^2 = 0.970 \quad S.E. = 62 \quad D.W. = 1.80$$

Sample Period 1961-1973

$$D. = 1.35$$

(E.16) EMACH\$ Exports of Machinery to China

$$EMACH\$ = 17.40668 + 0.35579 GNPCH9 - 39.3286 Q6870$$

(44) (0.48) (1.02) (2.84)

$$R^2 = 0.509 \quad S.E. = 20 \quad D.W. = 1.80$$

Sample Period 1962-1972

(E.17) EOCH\$ Exports of Other than Machinery to China

$$EOCH\$ = - 9.2943 + 0.48417 EMACH\$$$

(88) (0.56) (1.57)

$$+ 0.66898 EOCH\$_{-1}$$

(7.20)

$$R^2 = 0.898 \quad S.E. = 28 \quad D.W. = 2.83$$

Sample Period 1961-1973

$$D. = 1.66$$

(E.18) ETCH\$ Total Exports to China

$$ETCH\$ = EMACH\$ + EOCH\$$$

(E.19) ECUBA\$ Exports to Cuba

$R^2 = 0.948$ S.E. = 46 D.W. = 0.93
Sample Period 1961-1973

(E.20) ETW\$ Exports to the World

ETW\$ \equiv ETDW\$ + ETCM* PREX9 + ETCH\$ + EOSC\$
 + ECUBA\$ + ETLDC\$ + EUSW\$9

(E.21) ETW70 Exports to the World at Domestic Constant Prices

$$ETW70 = 1.5 \frac{100 \text{ ETW\$}}{PREX9 \text{ PTX9}}$$

M. Imports

(M.1) MRMCM* Imports of Raw Materials and Semifabricates from CMEA

$$\frac{100 \text{ MRMCM*}}{\text{PMRMCM9}} = 502.182 + 0.073422 \frac{100\text{ERMCM*}}{\text{PERMCM9}} + 0.13713 \text{ DEVMMACM*}_{-1}$$

(13.02) (5.81) (1.97)

$R^2 = 0.755$ S.E. = 42 D.W. = 1.61
Sample Period 1960-1973

Where:

$$\text{DEVMMACM*} = \{\text{MMACM*} - (-983.61 + 179.55 \text{ QT50})\}$$

(M.2) MMACM* Imports of Machinery from CMEA

$$\frac{\text{MMACM*}}{(2150)} = -756.457 + 1.09900 \text{ ERMCM*}$$

(4.88) (19.09)

$$+ 1.71429 \text{ DEVEMACM*}_{-1}$$

(3.10)

$R^2 = 0.972$ S.E. = 145 D.W. = 1.47
Sample Period 1960-1973

Where:

$$\text{DEVEMACM*} = \{\text{EMACM*} - (-915.905 + 109.89 \text{ QT50})\}$$

(M.3) MFOCM* Imports of Food from CMEA

$$\frac{\text{MFOCM*}}{(400)} = - 296.915 + 5.15949 \text{ CRF70}$$

(1.99) (2.26)

$$+ 0.50700 \text{ MFOCM*}_{-1}$$

(2.21)

$R^2 = 0.968$ S.E. = 34 D.W. = 2.38
Sample Period 1960-1973 D. = 1.38

(M.4) MCOCM* Imports of Manufactured Consumer Goods from CMEA

$$MCOCM^* = - 211.75 + 12.3971 CRND70$$

$$(1059) \quad (1.37) \quad (1.22)$$

$$+ 0.18248 ENETCM^*_{-1} + 0.86325 MCOCM^*_{-1}$$

$$(1.41) \quad \quad \quad (3.93)$$

$$R^2 = 0.985 \quad S.E. = 59 \quad D.W. = 1.89$$

Sample Period 1960-1973

$$D. = 0.36$$

(M.5) MTCM* Total Imports from CMEA

$$MTCM^* \equiv MRMCM^* + MMACM^* + MFOCM^* + MCOCM^* + MUSCM^*9$$

(M.6) MNGDW\$ Imports other than Grain from the Developed West

$$\frac{MNGDW$}{P599} = - 22.17793 + 0.44185 XIT + 3.74336 FLQ_{-1}$$

$$(4.83) \quad (10.04) \quad (3.04)$$

$$(18.249)$$

$$R^2 = 0.954 \quad S.E. = 1.604 \quad D.W. = 1.74$$

Sample Period 1961-1973

(M.7) MMADW\$ Total Machinery Imports from the Developed West

$$\ln \frac{100. MMADW$}{P71GE9_{-1} IIN} = 3.72053 + 0.21729 \ln FLQ_{-1}$$

$$(64.18) \quad (3.22)$$

$$(3.715)$$

$$- 0.07814 Q6466 + 0.32515 QSH68$$

$$(0.82) \quad (2.47)$$

$$R^2 = 0.671 \quad S.E. = 0.110 \quad D.W. = 2.37$$

Sample Period 1961-1973

(M.8) MCODW\$ Imports of Consumer Goods other than Grain from the DW

$$\frac{MCODW\$}{MNGDW\$ - MUSDW\$^9} = - 0.09594 + 1.54632 \frac{CR70 - CR70_{-1}}{CR70_{-1}} \\ (1.55) \quad (2.02)$$

(0.0732)

$$+ 1.25745 \frac{CRD70}{CR70} - 0.12083 \frac{MGRDW\$}{MTDW\$} \\ (2.07) \quad (1.11)$$

 $R^2 = 0.501$ S.E. = 0.038 D.W. = 1.21
 Sample Period 1960-1973
(M.9) MRMDW\$ Imports of Raw Materials from the DW

$$MRMDW\$ \equiv MNGDW\$ - MMADW\$ - MCODW\$ - MUSDW\9$

(M.10) MGRDW\$ Imports of Grain from the Developed West

$$\frac{100 \cdot MGRDW\$}{PGR9 \cdot GRAVE} + \{ \frac{100 \cdot MGRDW\$}{PGR9 \cdot GRAVE} \}_{-1} = - 2.39634 + 0.14315 QT50 \\ (1.51) \quad (1.90)$$

(1.552)

$$- 19.79195 \frac{GRSTK}{GRAVE} \\ (3.42)$$

 $R^2 = 0.545$ S.E. = 0.925 D.W. = 2.08
 Sample Period 1961-1973

Where:

$$GRAVE \equiv XGR + XGR_{-1} + XGR_{-2}$$

$$GRSTK \equiv \sum_{i=1}^3 (XGR_{-i} - XGRPK_{-i})$$

(M.11) MTDW\$ Total Imports from the Developed West

$$MTDW\$ \equiv MNGDW\$ + MGRDW\$$$

(M.12) MTLDC\$ Total Imports from the Less Developed Countries

$$MTLDC\$ = - 99.3283 + 0.507074 ETLDC\$ + 1538.13 \left\{ \frac{PRMW9}{PMAW9} - \frac{PMAW9}{PRMW9} \right\} - 1$$

$$(1.43) \quad (2.66) \quad (3.78)$$

$$(1064)$$

$$- 136.922 Q67 + 0.674961 MTLDC\$ -1$$

$$(1.86) \quad (3.23)$$

$R^2 = 0.989$ S.E. = 67 D.W. = 2.04
Sample Period 1960-1973 D. = 0.11

(M.13) MOSC\$ Total Imports from Yugoslavia and the Far Eastern Socialist Countries

$$MOSC\$ = 95.07715 + 0.46756 EOSC\$$$

$$(418) \quad (2.50) \quad (9.33)$$

$R^2 = 0.888$ S.E. = 57 D.W. = 0.76
Sample Period 1961-1973

(M.14) MTCH\$ Imports from China

$$MTCH\$ = -3.81454 + 1.03969 ETCH\$ + 212.664 Q6164$$

$$(259) \quad (0.30) \quad (23.99) \quad (11.14)$$

$R^2 = 0.987$ S.E. = 31 D.W. = 3.01
Sample Period 1960-1972

(M.15) MCUBA\$ Imports from Cuba

$$100. \frac{MCUBA\$}{PSUGSU9} = 347.80 + 5.31084 XSUG9 -1 - 0.86734 WT9$$

$$(2.10) \quad (2.83) \quad (1.69)$$

$$(311)$$

$$- 213.32 \frac{PSUGW9}{PSUGSU9}$$

$$(1.56)$$

$R^2 = 0.519$ S.E. = 81 D.W. = 2.81
Sample Period 1960-1973

(M.16) MTW\$ Imports from the World

$$MTW\$ \equiv MTDW\$ + MTCM^* PREX9 + MTLDC\$ + MOSC\$ + MCUBA\$ + MUSW\$9$$

(M.17) MTW70 Imports from the World at Constant Domestic Prices

$$MTW70 \equiv 2.00 \frac{100MTW\$}{PREX9 PTM9}$$

(M.18) MIEIN\$ Imports from Developed West, Machinery and Equipment
(less Transport Equipment)

$$\ln \frac{100 \cdot *MIEIN\$}{IIN^*P71GE9_{-1}} = 3.48565 + 0.17595 \ln FLQ_{-1} \quad (55.88) \quad (2.42)$$

(3.465)

$$- 0.34055 Q6466 + 0.36836 QSH68 \quad (3.33) \quad (2.60)$$

$R^2 = 0.844$ S.E. = 0.118 D.W. = 2.27
Sample Period 1961-1973

(M.19) MTM100-5* Machinery Imports, Total, FTN10: Metal-Working
(Including Complete Plants, FTN105)

$$\ln \frac{100 \cdot MTM100-5^*}{IIMB^*P71GE9_{-1}} = 3.95284 + 0.27371 \ln FLQ_{-1} + 0.36289 Q70 \quad (92.63) \quad (4.23) \quad (2.91)$$

(4.016)

$$+ 0.31255 QSH68 + 0.05595 QSH68 (QT50-19.) \quad (2.68) \quad (1.95)$$

$R^2 = 0.797$ S.E. = 0.113 D.W. = 2.15
Sample Period 1961-1973

(M.20) MTM120-9* Machinery Imports, Total, FTN12: Mining, Metallurgy and Petroleum

$$\ln \frac{100 \cdot \text{MTM120-9}^*}{\text{IIPP}^* \text{P71GE9}_{-1}} = 4.36190 + 0.09478 \ln \text{FLQ}_{-1} + 0.16944 \text{ QFYP} \\ (4.283) \quad \quad \quad (37.67) \quad \quad \quad (1.45) \quad \quad \quad (2.60) \\ + 0.12421 \text{ QSH68} - 0.13378 \text{ QSH68} \quad (\text{QT50-19.}) \\ \quad \quad \quad (1.07) \quad \quad \quad (4.86)$$

$R^2 = 0.909$ S.E. = 0.109 D.W. = 2.45
Sample Period 1961-1973

(M.21) MIECH\$ Machinery Imports, West, Chemical Equipment

$$\ln \frac{100 \cdot \text{MIECH}^*}{\text{IICH}^* \text{P71GE9}_{-1}} = 4.74708 + 0.35898 \ln \text{FLQ}_{-1} \\ (4.454) \quad \quad \quad (46.90) \quad \quad \quad (2.79) \\ - 0.47803 \text{ QFYP} + 0.33654 \text{ QSH68} \\ \quad \quad \quad (3.62) \quad \quad \quad (1.55)$$

$R^2 = 0.667$ S.E. = 0.221 D.W. = 2.41
Sample Period 1961-1973

F. Hard Currency(F.1) FNETHC Hard Currency Balance of Trade

$$FNETHC\$ = - 60.7808 + 1.21162 ENETDW\$$$

$$(-434) \quad (1.45) \quad (14.32)$$

$$R^2 = 0.945 \quad S.E. = 123 \quad D.W. = 2.12$$

Sample Period 1960-1973

(F.2) FCREP\$ Credit Repayments

$$FCREP\$ = 0.73024 + 0.28217 FCDR\$9_{-1} + 0.68156 FCREP\$_{-1}$$

$$(246) \quad (0.05) \quad (2.90) \quad (3.10)$$

$$R^2 = 0.976 \quad S.E. = 28 \quad D.W. = 1.26$$

Sample Period 1960-1973

(F.3) FDEBT\$ Outstanding Debt

$$FDEBT\$ \equiv FDEBT\$_{-1} + FCDR\$9 - FCREP\$$$

(F.4) FINT\$ Interest Payments

$$FINT\$ = - 4.0578 + 0.055122 (FDEBT\$ + FDEBT\$_{-1})/2$$

$$(41.9) \quad (5.32) \quad (76.97)$$

$$R^2 = 0.998 \quad S.E. = 1.6 \quad D.W. = 1.96$$

Sample Period 1960-1972

(F.5) FDHC\$ Hard Currency Inflow (Balance of Payments)

$$FDHC\$ \equiv FNETHC\$ + FSER\$9 + FCDR\$9 + FGSALES - FINT\$ - FCREP\$$$

(F.6) FSTK\$ Hard Currency Holdings

$$FSTK\$ \equiv FSTK\$_{-1} + FDHC\$$$

(F.7) FGSALE\$ Gold Sales

$$FGSALE\$ = 263.274 - 0.14013 \frac{FNETHC\$ + FNETHC\$_{-1}}{2} \\ (3.49) \quad (1.00) \\ (261) \\ - 0.45661 (FSTK\$ - FGSALE\$) \\ (4.24)$$

$R^2 = 0.828$ S.E. = 141 D.W. = 2.27
Sample Period 1961-1973

(F.8) FGOLD Gold Reserves

$$FGOLD \equiv FGOLD_{-1} + XGOLD9 - \frac{FGSALE\$}{PGOLD9}$$

(F.9) FLQ Liquidity Ratio

$$FLQ = \frac{FGOLD PGOLD9 - FDEBT\$}{MTDW\$}$$

G. AGGREGATE IDENTITIES AND BALANCES(G.1) GNPA3 Gross National Product, Agriculture

$$GNPA3 \equiv \frac{.71826}{.74122} (XAGT70 - AVCP70)$$

(G.2) GNPNA3 Gross National Product, Non-Agricultural Sectors

$$GNPNA3 \equiv 1.71449 XIT + \frac{.25379}{.438} XCRUB + .31581 XT7R$$

$$+ .17065 XDTR + .43868 XSER70 + \frac{5.320}{3.8} NMD9$$

(G.3) GNP3 Gross National Product

$$GNP3 \equiv (GNPA3 + GNPNA3) / .96264$$

(G.4) GNMP3 Net Material Products

$$GNMP3 \equiv 1.71449 XIT + \frac{.25379}{.438} XCRUB + \frac{.71826}{.74122} (XAGT70 - AVCP70)$$

$$+ .31581 (.734) XDTR + .17065 (.1264) XDTR$$

(G.5) GEUSUM3 GNP End-Use, Excluding Net Exports and Consumption

$$GEUSUM3 \equiv ISUM + BDSR*9 + .09971 BADMIN + .09927 BRESDEV$$

$$+ \frac{5.320}{3.8} NMD9$$

(G.6) GRESEM3 End- Use Residual

(Note: Actual Values used for GRESEM3 defined by

$$GRESEM3 \equiv GNP3 - .001 (ETW70 - MTW70) - GEUSUM3 - CR70$$

$$GRESEM3 = 2.21834 + 0.47610 (XAGT70 - XAGTN) \\ (2.690) (1.95) (2.03)$$

$$- 0.68756 (XAGT70_{-1} - XAGTN_{-1}) \\ (2.70)$$

(G.6) GRESEM3 End-Use Residual (Continued)

$R^2 = 0.475$ S.E. = 4.008 D.W. = 1.78
Sample Period 1960-1973

(G.7) GSIMRES Simulation Residual GNP Category

GSIMRES \equiv GNP3 - GEUSUM3 - CR70 - GRESEM3 - .001 (ETW70-MTW70)

NOTE: Actual values for GSIMRES are identically zero.
Solution values represent the difference between
"production" and "end use" determinations of GNP
when consumption is not obtained by residual identity.

DOCUMENTATION

SERIES LABEL	VAR#	DESCRIPTION	UNITS	SOURCE	PRECISION
AEFF070	410	VALUE OF FEED FED TO LIVESTOCK, 1970 PRICES	B,1970 RUBLES	S10100 062075	5
ALVH70	101	VALUE OF PRODUCTIVE LIVESTOCK (END-yr), 1970 PRICE WEIGHTS	B,1970 RUBLES	DER70-THAN	5
ASGR70	408	AREA SOWN TO GRAIN	HECTARES	S10100	5
AVCP70	102	VALUE OF AGRICULTURAL CURRENT PURCHASES	B,1970 RUBLES	DER1970	5
BAU*	143	STATE BUDGET EXPENDITURES, ADMINISTRATION	B, CUR	NKH02	5
BAUDM	424	INDEX OF ADMINISTRATION & MISC. SERVICES (EST. PRICES)	1970*100	DER75	5
BDW*9	152	STATE BUDGET EXPENDITURES, DEFENSE	B, CUR	NKH02	5
BDR*9	153	DEFENSE NONPERSONNEL EXPENDITURES IN CURRENT PRICES	B,CUR,	COM74	5
BSH*9	429	R&D EXPENDITURES IN CURRENT PRICES	B,CUR,	COM74	5
BTDT*	428	CHANGE IN STATE RESERVES/ MILITARY PROCUREMENT ESTIMATE	B,CUR, RUBLES	COM76	5
BDT0	425	DEFENSE AND STATE RESERVES, CURRENT RUBLES	B,CUR, R	COM76-THAN	5
BF*	426	DEFENSE AND STATE RESERVES, 1970 RUBLES	B,1970 RUBLES	NKH02	5
BGN*	146	STATE BUDGET EXPENDITURES, FINANCING THE NATIONAL ECONOMY, TOTAL	B, CUR	NKH02	5
BNAU*	151	STATE BUDGET EXPENDITURES, GOVT SPENDING, NATL ACCOUNTS BASIS	B, CUR	NKH02	5
BREFS*	148	SCIENCE EXPENDITURES, USSR BUDGET (CURRENT PRICES)	B, RUBL	COM73	5
BRHSE*	150	STATE BUDGET EXPENDITURE RESIDUAL	B, RUBL	NKH02	5
BS*	423	INDEX OF RESEARCH AND DEVELOPMENT (EST. PRICES)	1970*100	DER75	5
BTTRAN*	147	STATE BUDGET EXPENDITURES, SOCIAL AND CULTURAL MEASURES (INCL. 3	B, CUR	NKH02	5
BSIC*	241	TRANSFER PAYMENTS	B, CUR, RUBLES	JEC76	5
BTTRAN*	137	CONSUMPTION OF DURABLES, 1970 EST. PRICES	B,1970 RUBLES	JEC76	5
CRDJO	135	CONSUMPTION OF FOOD, 1970 EST. PRICES	B,1970 RUBLES	JEC76	5
CRF70	136	CONSUMPTION OF SOFT. GOODS, 1970 EST PRICES	B,1970 RUBLES	JEC76	5
CRN70	224	CONSUMPTION OF NON-SERVICES, 1970 EST. PRICES	B,1970 RUBLES	JEC76-THAN	5
CRN70	158	CONSUMPTION OF SERVICES, 1970 EST. PRICES	B,1970 RUBLES	JEC76, DER75, THAN	5
CRS70	159	TOTAL CONSUMPTION, 1970 EST. PRICE WEIGHTS	B,1970 RUBLES	JEC76, DER75, THAN	5
CR70	154	EXPORTS TO CMEA OR CMEA CATEGORY III AND IV EXCEPT GRAIN	M/RB	DER75	5
ECOCM*	272	EXPORTS TO CUBA	MSUS	DER	5
FCUH83	262	EXPORTS OF FOOD TO THE DM	MSUS	DER	5
FGDAS	254	GRAIN EXPORTS TO CMEA	M/RB	DER	5
FGRCM*	261	GRAIN EXPORTS TO THE DM	MSUS	DER	5
FGRDAS	267	GRAIN EXPORTS TO LDC	MSUS	DER	5
FGHLOC8	269	EXPORTS OF MACHINERY TO CHINA	MSUS	DER	5
EHACH8	255	EXPORTS TO CMEA OR CMEA CATEGORY I COMMODITIES	M/RB	INDIANA	5
FMACH8	259	BALANCE OF TRADE WITH CMEA	M/RB	DER	5
FNETCM*	265	EDOMS-MTOMS	MSUS	DER	5
FNETCM*	264	NET GRAIN EXPORT BALANCE AT 63 PRICES	CINS, 63	DER	5
FNETCM*	260	EXPORTS TO THE DM OTHER THAN FOOD	MSUS	DER	5
EMIFC8	270	NONMACHINERY EXPORTS TO CHINA	MSUS	DER	5
ELUCH8	268	EXPORTS TO YUGOSLAVIA AND THE FAR-EASTERN SOCIALIST COUNTRIES	MSUS	INDIANA	5
ELUSCS	254	EXPORTS TO CMEA OR CMEA CATEGORY II COMMODITIES	M/RB	INDIANA	5
FRNCH*	271	TOTAL EXPORTS TO CHINA	MSUS	INDIANA	5
FRCH*	258	TOTAL EXPORTS TO EUROPEAN CMEA (EXCL. YUGOSLAVIA, ALBANIA)	M/RB	INDIANA	5
FTCM*	263	TOTAL EXPORTS TO THE DEVELOPED WEST	MSUS	DER	5
FTDUC8	266	TOTAL EXPORTS TO LDC	MSUS	DER	5
FTRS*	273	TOTAL EXPORTS TO THE WORLD	MSUS	DER	5
FTW70	274	TOTAL EXPORTS TO THE WORLD IN DOMESTIC CURRENCY	M,1970	INDIANA	5
FUSL1*9	312	UNSPECIFIED EXPORTS TO CMEA	M/RB	INDIANA	5
FUSL9	108	UNSPECIFIED EXPORTS TO THE WORLD	MSUS	DER	5
FOH70	350	HARD CURRENCY CREDIT DRAWINGS	MSUS	DER	5
FCRTP8	522	CREDIT REPAYMENTS IN HARD CURRENCY	MSUS	DER	5

DOCUMENTATION

SERIES LABEL	VAR# DESCRIPTION	DOCUMENTATION	UNITS	SOURCE	PRECISION
FDOTS	323 OUTSTANDING DEBT AT THE END OF THE YEAR		MSUS	DEH	5
FDWS	325 HARD CURE, BALANCE OF P, SUPPLIERS		MSUS	DER	5
FGOLD	326 GOLD RESERVES AT THE END OF THE YEAR		TUNS	DER	5
FGSLES	327 GOLD SALES		MSUS	DER	5
FINTS	328 INTEREST PAYMENTS IN HARD CURRENCY		MSUS	DER	5
FLQ	329 HARD CURRENCY LIQUIDITY (FGOLD*GOLD+FDOTS)/WDWS		MSUS	DER	5
FREHLS	330 HARD CURRENCY BALANCE OF PAYMENTS		MSUS	DER	5
FSKTS	332 ACCUMULATED HC HOLDINGS SINCE 1959		MSUS	DER	5
GEUSWS	336 END-USE SUM (EXCLUDING CONSUMPTION, NET EXPORTS)		B,1970K	DER5-TRAN	5
GNHP3	210 SOVIET NET MATERIAL PRODUCT, EST, SINCE 1970 WEIGHTS		B,1970R	DER5-TRAN	5
GNHPS	420 SOVIET NET MATERIAL PRODUCT, EST, SINCE 1970 WEIGHTS		B,1970R	DER5-TRAN	5
GNPCH9	95 AGRICULTURAL GNP, TOTAL OUTPUT LESS CURRENT PURCHASES		B,1970R	DER5-TRAN	5
GNPCHP9	306 GNP OF CHINA		1968-10	JEC	5
GNP9	94 AGRICULTURAL GNP, EST, PRICE 1970 WEIGHTS		B,1970R	DER5-TRAN	5
GHP3	96 SOVIET GNP, SUMMED III (GPA3+GPN3)/.96664		B,1970R	DER5-TRAN	5
GHESEW3	191 GNP END-USE RESIDUAL = GNP-GTUMS-CH70-001(ETM70-MT70)		B,1970K	TRAN	5
GHMFRS	242 EROTS TO USE AS ACTUAL VALUES FOR SIMULATION RESIDUAL		NONE	NONE	5
IA	13 CAPITAL INVESTMENT IN AGRICULTURE 72R		B,197	TRAN	5
ICAPHEP	155 INDEX OF CAPITAL REPAIRS		1970-100	DER5	5
ICUHA	14 CAPITAL INVESTMENT IN CONSTRUCTION		B,RUB	NARKHOZ	5
IFAG*9	22 STATE BUDGET FINANCE, AGRICULTURE		B,CUR	PRAVDA	5
IFAJ*	227 STATE BUDGET FINANCING OF CENTRALIZED INV, ADJUSTED		B,CUR	TRAN	5
IFIN*9	20 INDUSTRY AND CONSTRUCTION		B,CUR	CUR DIG	5
IFIR*9	21 TRANSPORTATION AND COMMUNICATION		B,CUR	CUR DIG	5
IHS	16 INVESTMENT IN HOUSING, ADJ TO 1970 PRICES		B,RUB	NARKHOZ	5
ITCH	6 CAPITAL INVESTMENT, (CHEMICALS AND PETROCHEMICALS)		B,1970	NKH02	5
ITCM	9 CAPITAL INVESTMENT, (CONSTRUCTION MATERIALS)		B,1970	NKH02	5
ITIN*9	3 CAPITAL INVESTMENT, (COAL PRODUCTS)		B,1970	NKH02	5
ITEP	2 CAPITAL INVESTMENT, (ELECTROENERGY)		B,1970	NKH02	5
ITFP	5 CAPITAL INVESTMENT, (FERROUS METALS)		B,1970	NKH02	5
ITFP	6 CAPITAL INVESTMENT, (FOREST PRODUCTS(INK PAPER))		B,1970	NKH02	5
ITFP	7 CAPITAL INVESTMENT, (MACHINE BUILDING AND METAL WORKING)		B,1970	NKH02	5
ITIN	1 CAPITAL INVESTMENT IN INDUSTRY 72R		B,72R	NKH02	5
ITIN	12 CAPITAL INVESTMENT, NONFERROUS METALLURGY (RESIDUAL CATEGORY)		B,1970R	NKH02,	5
ITPP	11 CAPITAL INVESTMENT, (PROCESSED FOOD INDUSTRY)		B,1970	NKH02	5
ITPP	4 CAPITAL INVESTMENT, (PETROLEUM PRODUCTS)		B,1970	NKH02	5
ITSG	10 CAPITAL INVESTMENT, (LIGHT INDUSTRY)		B,1970	NKH02	5
ITSG	18 INVESTMENT, NONAGRICULTURAL		B,RUB	TRAN	5
ITCH9	235 BRANCH INVESTMENT SHARE, CHEMICALS & PETROCHEMICALS		NONE	NKH-TRA	5
ITCH9	236 BRANCH INVESTMENT SHARE, CONSTRUCTION MATERIALS		NONE	NKH-TRA	5
ITCP9	231 BRANCH INVESTMENT SHARE, COAL PRODUCTS		NONE	NKH-TRA	5
ITCP9	230 BRANCH INVESTMENT SHARE, ELECTROENERGY		NONE	NKH-TRA	5
ITCP9	233 BRANCH INVESTMENT SHARE, FERROUS METALLURGY		NONE	NKH-TRA	5
ITCP9	237 BRANCH INVESTMENT SHARE, FOREST PRODUCTS		NONE	NKH-TRA	5
ITIC9	184 PERCENTAGE NONAGRICULTURAL INVESTMENT, CONSTRUCTION		NONE	TRAN	5
ITIM9	184 PERCENTAGE NONAGRICULTURAL INVESTMENT, HOUSING		NONE	TRAN	5
ITI19	161 PERCENTAGE NONAGRICULTURAL INVESTMENT, INDUSTRY		NONE	TRAN	5
ITI19	187 PERCENTAGE NONAGRICULTURAL INVESTMENT, SERVICES		NONE	TRAN	5
ITIT9	185 PERCENTAGE, NON AGRICULTURAL INVESTMENT, TRANSPORT AND COMMUNIC		NONE	TRAN	5
ITW69	236 BRANCH INVESTMENT SHARE, MACHINE-BUILDING & METAL-WORKING		NONE	NKH-TRA	5

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DOCUMENTATION

SERIES LABEL	VAR# DESCRIPTION	DOCUMENTATION	UNITS	SOURCE	PRECISION
1RNPQ	234 BRANCH INVESTMENT SHARE NON-FERROUS (RESIDUAL SHARE)		NONE	NKH-TRA	3
1RPFQ	240 BRANCH INVESTMENT SHARE PROCESSED FONDS		NONE	NKH-TRA	3
1RPPQ	242 BRANCH INVESTMENT SHARE PETROLEUM PRODUCTS		NONE	NKH-TRA	3
1RSGQ	232 BRANCH INVESTMENT SHARE SOFT GOODS		NONE	NKH-TRA	3
1SFR	17 CAPITAL INVESTMENT IN SERVICES 72R		B RUB	NARKHUL	3
1SUW	419 TOTAL ACCUMULATION FUND, FIXED CAPITAL, INVENT., & LIVESTOCK	B,1970	NKH,UKH-TRAN	3	
1S70TA	156 INVENTORY STOCK, END YEAR, NON-TRADE NON-AGRI, 1970 PRICES	B 197	TRAN	3	
1S70T	157 INVENTORY STOCK, END YEAR, DOMESTIC TRADE, 1970 PRICES	B 197	TRAN	3	
1T01L	19 INVESTMENT, NATIONAL ECONOMY	B RUB	TRAN	3	
1TRUB	15 CAPITAL INVESTMENT IN TRANSPORT & COMMUNICATIONS	B RUB	NARKHUL	3	
1704TA	158 CHANGE IN INV. STOCK, END YEAR AT 1970 PRICES, NON-TRADE NON-AGRI	B 197	TRAN	3	
1701I	159 CHANGE IN INV. STOCK, END YEAR AT 1970 PRICES, DOMESTIC TRADE	B 197	TRAN	3	
JP59	98 SUM OF DEVIATIONS FROM MONTHLY PRECIPITATION VALUES	CM	TMS	3	
JTMQ	99 WEATHER INDEX, WINTER TEMP INDEX FOR SOUTHERN UKRAINE	NONE	D-G	3	
KAIK	35 AGRICULTURAL FIXED CAPITAL (MEAN YEAR 1955 PRICES)	B RUB	DIAMON	5	
KCOM	39 BASIC FUNDS, TRADE, SUPPLY, OTHER WP (JAN, 1) 1955 PRICES	B,1955R	NKH	5	
KCR	36 BASIC FUNDS, CONSTRUCTION (JAN, 1) 1955 PRICES	B RUB	TRAN	3	
KHA	42 ADJUSTED BASIC FUNDS, HOUSING (JAN, 1, 1955 PRICES)	B RUB	NARKHUL	3	
KHAR	38 BASIC FUNDS IN HOUSING (JAN, 1, 1955 PRICES)	B RUB	TRAN	3	
KIA	41 ADJUSTED BASIC FUNDS, INDUSTRY (JAN, 1, 1955 PRICES)	B RUB	TRAN	3	
KICHW	339 IMPORTED WESTERN MACHINERY CHEMICALS (JAN, 1)	B,1955 RUBBLES	DMG76	5	
KICH	29 CAPITAL STOCK, CHEMICALS AND PETROCHEMICALS (JAN, 1)	B,1955R	COHN	3	
KICH	32 CAPITAL STOCK, CONSTRUCTION MATERIALS	B,1955R	COHN	3	
KICP	26 CAPITAL STOCK, COAL PRODUCTS	B,1955R	COHN	3	
KIEP	25 CAPITAL STOCK, ELECTRIC POWER	B,1955R	COHN	3	
KIFP	28 CAPITAL STOCK, FERROUS METALS	B,1955R	COHN	3	
KIFP	31 CAPITAL STOCK, FOREST PRODUCTS	B,1955R	COHN	3	
KIMb29	179 BASIC FUNDS ADJUSTMENT FOR 1962-19 TRANSFER OF HOUSING CAPITAL	B RUB	TRAN	3	
KIBH	340 IMPORTED MACHINERY, METAL-WORKING (JAN, 1)	B,1955 RUBLES	DMG76	5	
KIBB	30 CAPITAL STOCK, MACHINE-BUILDING AND METAL-WORKING	B,1955R	COHN	3	
KIEP	34 CAPITAL STOCK, PROCESSED FONDS	B,1955R	COHN	3	
KIPPU	531 IMPORTED MACHINERY, PETROLEUM & MINING (JAN, 1)	B,1955 RUBLES	DMG76	5	
KIPP	27 CAPITAL STOCK, PETROLEUM PRODUCTS	B,1955R	COHN	3	
KISG	33 CAPITAL STOCK, SOFT GOODS	B,1955R	COHN	3	
KITUT	24 CAPITAL STOCK, TOTAL INDUSTRY	B 195	COHN	3	
KIT58P	178 BASIC FUNDS ADJUSTMENT FOR 1958 1-1 TRANSFER OF RR CAPITAL (AT	B,1955 RUBLES	TRAN	3	
KIW	44 IMPORTED WESTERN MACHINERY INDUSTRY (JAN, 1)	B,1955 RUBLES	DMG76	5	
KNIC14	165 NET CHANGE IN BASIC FUNDS, DOMESTIC TRADE	B,1955R	NKH	3	
KNDC	163 NET CHANGE IN BASIC FUNDS, CONSTRUCTION	B RUBL	TRAN	3	
KNDH	166 NET CHANGE IN BASIC FUNDS, HOUSING	B RUBL	TRAN	3	
KNDI	162 NET CHANGE IN BASIC FUNDS, INDUSTRY	B RUB	TRAN	3	
KNDI	164 NET CHANGE IN BASIC FUNDS, TRANSPORT & COMMUNICATIONS	B,1955R	TRAN	3	
KNICH	172 NET CHANGE IN BASIC FUNDS, PETROHEM.	B,1955R	NKH	3	
KNICH	175 NET CHANGE IN BASIC FUNDS, CONSTRUCTION MATERIALS	B,1955R	NKH	3	
KNICP	169 NET CHANGE IN BASIC FUNDS, FINAL PRODUCTS	B,1955R	NKH	3	
KNICP	168 NET CHANGE IN BASIC FUNDS, ELECTROENERGY	B,1955R	NKH	3	
KNIFP	171 NET CHANGE IN BASIC FUNDS, FERROUS METALLURGY	B,1955R	NKH	3	
KNIPP	174 NET CHANGE IN BASIC FUNDS, FOREST PRODUCTS	B,1955R	NKH	3	
KNIPU	173 NET CHANGE IN BASIC FUNDS, MACH, MLDG, METAL WORK	B,1955R	NKH	3	
KNIPF	177 NET CHANGE IN BASIC FUNDS, PROCESSED FOODS	B,1955R	NKH	3	

DOCUMENTATION

SERIALS LABEL	VAR# DESCRIPTION	UNITS	SOURCE	PRECISION
KNIP	170 NET CHANGE IN BASIC FUNDS PETROLEUM PRODUCTS	B, 1955R	NKH	5
KNIS	176 NET CHANGE IN BASIC FUNDS SOFT GOODS	R, 1955R	NKH	3
KNSE	167 NET CHANGE IN BASIC FUNDS SERVICES	B, 1955R	NKH	3
NSFR	40 BASIC FUNDS, SERVICES (JAN.)	B, 1955R	NKH	3
KSUN	154 BASIC FUNDS, NATIONAL ECONOMY, JULY 1	R, 1955R	TRAN	3
KTA	93 ADJUSTED BASIC FUNDS, TRANSPORT AND COMMUNICATION (JAN 1, 1955 P	R, RUB	TRAN	3
KTCUS	97 HAULAGE CAR UTILIZATION, AVE 24HR DISTANCE PER FREIGHT CAR	KHS/2	SVYAZI	3
KTR	37 BASIC FUNDS, TRAN & COMM JAN 1, 1955 PRICES	B, RUB	TRAN	3
KHALQ	104 PERCENT OF KHALQ LIVESTOCK BEING FATTENED & YOUNG LIVESTOCK	PERCENT	NARKHOZ	3
MCUCA	278 IMPORTS FROM CMEA CATEGORY IV COMMODITIES	MHB	INDIANA	3
MCDCS	282 IMPORTS OF FOOD AND MANUF. CONS.GOODS, EXCLUDED GRAIN, FROM THE DM	MSUS	UER	3
MCURS	290 IMPORTS FROM CUBA	MSUS	DER	3
MFCC4	277 IMPORTS FROM CMEA OF CMEA CATEGORY III COMMODITIES	MSUS	INDIANA	3
MGRDS	284 GRAIN IMPORTS FROM THE DM	MSUS	DER	3
MIECHS	342 IMPORTS, MACH., CHEMICAL EQUIPMENT	M, CCR, S	DER/2	3
MILITIS	211 IMPORTS, DEVELOPED WEST, MACHINERY & EQUIPMENT (LESS TRANSPORT EQUIP	MSUS	71JC	3
MMAUCH	276 IMPORTS FROM CMEA OF CMEA CATEGORY I COMMODITIES	MHB	INDIANA	3
MMAUDS	281 MACHINERY IMPORTS FROM THE DM	MSUS	DER	3
MNGDS	280 IMPORTS FROM THE DM OTHER THAN CHAIN	MSUS	DER	3
MOSCS	287 IMPORTS FROM YUGOSLAVIA AND THE FAR EASTERN SOCIALIST COUNTRIES	MSUS	DER	3
MRMC4	275 IMPORTS FROM CMEA CATEGORY II COMMODITIES	MRB	INDIANA	3
MRMDS	283 IMPORTS FROM THE DM OTHER THAN MACHINERY, CONS., OR UNSPEC.	MSUS	DER	3
MTCHS	288 TOTAL IMPORTS FROM CHINA	MSUS	DER	3
MTONS	279 TOTAL IMPORTS FROM EUR, CMEA (EXCL YUGOSLAVIA, ALBANIA)	MRB	INDIANA	3
MTLDS	285 TOTAL IMPORTS FROM THE DEVELOPED WEST	MSUS	DER	3
MTM10-5*	286 TOTAL IMPORTS FROM LDC	MSUS	DER	3
MTM10-9*	303 MIG. IMPORTS ALL METAL WORKING MFG INCL. COMPLETE PLANTS	M, FT, RUBLES	VNTORG	3
MTS	341 MIG. IMPORTS MINING, METALLURGICAL AND PETROLEUM	M, FT, RUBLES	VNTORG	3
MTW	290 TOTAL IMPORTS FROM THE WORLD	MSUS	DER	3
MUSC4	291 TOTAL IMPORTS FROM THE WORLD IN DOMESTIC CURRENCY	M, 1970	INDIANA	3
MUSDQ	311 UNSPECIFIED IMPORTS FROM CMEA	MRB	DER	3
MUSA5	313 UNSPECIFIED IMPORTS FROM THE DM	MSUS	DER	3
MUSV4	317 UNSPECIFIED IMPORTS FROM THE WORLD	MSUS	FDADS	3
NAKUL	402 AGRICULTURAL EMPLOYMENT, PRIVATE (COLLECTIVE FARMS)	M, PERSO	FDADS	3
NAPRY	66 AGRICULTURAL EMPLOYMENT, PRIVATE (MAN-YEAR EQUIVALENTS)	M, PERSO	FDADS	3
NASK	65 AGRICULTURAL EMPLOYMENT, STATE AND COLLECTIVE FARMS	M, PERSO	FDADS	3
NASUV	401 AGRICULTURAL EMPLOYMENT, SOVIKOZY (STATE FARMS)	M, PERSO	FDADS	3
NAT	67 AGRICULTURAL EMPLOYMENT, TOTAL	M, PERSO	FDADS	3
NCWU	294 POPULATION IN THE EUROPEAN CMEA	M	UN	3
NEINDO	74 HIGH ED, ENGR, ALL INDUSTRIAL CATEGORIES	(000)	NARKHOZ	3
NEET19	554 HIGH ED, ENGR, METALLURGY	(000)	NARKHOZ	3
NEET19	335 HIGH ED, ENGR, MINING	(000)	NARKHOZ	3
NETHA9	75 HIGH ED, ENGR, TRANSPORT	(000)	NARKHOZ	3
NET	72 ENGINEERING-TECHNICAL WORKERS IN INDUSTRY	000 M	NARKHOZ	3
NLDCA	304 POPULATION IN AFRICA, SOUTH AMERICA AND SOUTH ASIA	M	UN	3
NMC	60 EMPLOYMENT, CONSTRUCTION	000 PER	RAPAWY	3
NMD9	404 MILITARY WORKERS	1,000 PERSONS	LEEF75	1
NMF	58 EMPLOYMENT FORESTRY	000 PER	RAPAWY	3
NMG	63 EMPLOYMENT, GOVERNMENT AND SERVICES	000 PERSONS	NMG TRAN	3
NMT	45 EMPLOYMENT, INDUSTRIAL	000 PER	RAPAWY	3

STATIS LABEL	VAR#	DESCRIPTION	UNITS	SOURCE	PRECISION
NMIC	51	AVERAGE ANNUAL EMPLOYMENT, BRANCH/ICHEMICALS & PETROCHEMICALS	000ERS	RAPAMY	3
NMIC	52	AVERAGE ANNUAL EMPLOYMENT, BRANCH/ICONICAL MATERIALS	000ERS	RAPAMY	3
NMICP	47	AVERAGE ANNUAL EMPLOYMENT, BRANCH/COAL PRODUCTS	000ERS	RAPAMY	3
NMICP	46	AVERAGE ANNUAL EMPLOYMENT, BRANCH/ELECTROENERGY	000ERS	RAPAMY	3
NMIFM	49	AVERAGE ANNUAL EMPLOYMENT, BRANCH/FERROUS METALLURGY	000ERS	RAPAMY	3
NMIFP	53	AVERAGE ANNUAL EMPLOYMENT, FOREST PRODUCTS (EXCL. PAPER)	THOU, P	RAPAMY	1
NMIFM	52	AVERAGE ANNUAL EMPLOYMENT, BRANCH/MACHINE-BUILDING & METAL-MGR	000ERS	RAPAMY	3
NMIC	57	AVERAGE ANNUAL EMPLOYMENT, BRANCH/MACHINE (RESIDUAL)	000ERS	RAPAMY	3
NMIC	50	AVERAGE ANNUAL EMPLOYMENT, BRANCH/MIN-METALLURGY	000ERS	RAPAMY	3
NMIFM	169	AVERAGE ANNUAL EMPLOYMENT, PULP & PAPER	THOUS, P	RAPAMY	3
NMIFP	56	AVERAGE ANNUAL EMPLOYMENT, BRANCH/PROCESSED FOOD	000ERS	RAPAMY	3
NMIFP	44	AVERAGE ANNUAL EMPLOYMENT, BRANCH/ROLEUM PRODUCTS	000ERS	RAPAMY	3
NMISG	55	AVERAGE ANNUAL EMPLOYMENT, BRANCH/SOFT GOODS (LIGHT INDUSTRY)	000ERS	RAPAMY	3
NMNA	64	EMPLOYMENT, ALL NON-AGRICULTURAL SECTORS	000ERS	RAPAMY	3
NMU	59	EMPLOYMENT, OTHER	000 PE	RAPAMY	3
NMS	62	EMPLOYMENT, TRADE ETC.	000 PE	RAPAMY	3
NMTC	61	EMPLOYMENT, TRANSPORTATION AND COMMUNICATIONS	000ERS	NHG TRAN	3
NPOAHA	69	POPULATION, ABLE AGED (65-59/54)	M, PTH	73/EC52	3
NPOPH	71	POPULATION, RURAL (END YEAR)	M	NKH	3
NPOU	70	POPULATION, URBAN (END YEAR)	M	NKH	3
NPOP9	68	POPULATION, TOTAL	M	PER	3
NTSR9	73	SPECIALISTS, TACO (ENDYEAR), INTERPOLATION WITH LAGGED ENROLLMENT	000ERS	NKH+DG	3
NM9	301	POPULATION IN WESTERN EUROPE	M	UN	3
PAFC70	122	PRICE FOOD SOLD TO COUNS, CO-OPS AT NEGOT P'S, 1970W	1970±100	NKH+TRAN	3
PE40W	246	WORD IMPORT PRICES ALIGNMENT BY SOVIET EXPORTS	1963±10	PE40	3
PE40C9	190	UNIT VALUE PRICE OF FARMCH.	1963±10	HEWETT	3
PFCC	123	C/CONSUMPTION PRICE, FOOD (FROM PIRFT & PAFC70)	1970±1	TRAN	3
PGW3	307	GNP DEFATOR, CURRENT RUBLE INCOME MEASURE/REAL GNP	1970±1	TRAN	4
PGOLD9	319	PRICE OF GOLD	MSUS/ TU	ESTIMAT	3
PGR9	209	PRICE INDEX OF WORLD MARKET GRAIN PRICES	1963±10	UN	3
PIA	133	INVESTMENT DEFATOR, AGRICULTURE	1972±1	NARKHOZ	3
PIC	129	INVESTMENT DEFATOR, CONSTRUCTION SECTOR	1972±1	NARKHOZ	3
PIM5	132	INVESTMENT DEFATOR, HOUSING	1972±1	NARKHOZ	3
PIL	128	INVESTMENT DEFATOR, INDUSTRY	1972±1	NARKHOZ	3
PIM70	121	INDEX OF STATE RETAIL PRICES FOR FOOD GOODS (DEFLATED)	1970±1	NARKHOZ	3
PIS	131	INVESTMENT DEFATOR, SERVICES	1972±1	NARKHOZ	3
PIT	150	INVESTMENT DEFATOR, TRANSPORT	1972±1	NARKHOZ	3
PIMH70	126	INDEX OF WHOLESALE INDUSTRIAL PRICES, LIGHT AND FOOD INDUSTRY (DEFLATED)	1970±1	NARKHOZ	3
PIM70	125	INDEX OF WHOLESALE INDUSTRIAL PRICES, LIGHT AND FOOD INDUSTRY (DEFLATED)	1970±1	NARKHOZ	3
PHB9	298	WORLD MARKET PRICES OF MANUFACTURED GOODS	1963±10	UN	3
PHBHQ	310	UNIT VALUE PRICE OF FARMCH.	1963±10	HEWETT	3
PHC	120	CONSUMPTION PRICE, NON-FOOD (FROM PIRFT & PFC)	1970±1	TRAN	3
PRX9	212	OFFICIAL EXCHANGE RATE OF THE RUBLE IN DOLLARS	1970±1	NKH	3
PHAQ	105	WORLD MARKET PRICES OF PRIMARY PRODUCTS	1963±10	UN	3
PSUG11Q	314	UNIT VALUE PRICES OF SUGAR IMPORTS FROM CUBA	1963±10	OPR	3
PSUGW?	316	WORLD SUGAR PRICES	1963±10	UN	3
PTW9	314	SOVIEET TRADE WITH WORL, IMPORTS, OFFICAL PRICE INDEX	1970	O.V. TORG	3
PTW9	194	PRICES OF TOTAL WORL IMPORTS	1963±10	UN	3
PTW9	309	SOVIET TRADE WITH WORL, EXPORTS, OFFICAL PRICE INDEX	1970	O.V. TORG	3

SERIES LABEL	VAR# DESCRIPTION	DOCUMENTATION	UNITS	SOURCE	PRECISION
PUAF	443 MATERIAL INPUTS DEFLATON ¹ AGRICULTURE	1970=1.0		GUILL7b	4
PUCG	442 MATERIAL INPUTS DEFLATON ¹ CONSTRUCTION	1970=1.0		GUILL7b	4
PUCM	435 MATERIAL INPUTS DEFLATON ¹ CHEMICALS PETROCHEM ¹	1970=1.0		GUILL7b	4
PUCH	436 MATERIAL INPUTS DEFLATON ¹ CONSTRUCTION MATERIALS	1970=1.0		GUILL7b	4
PUCM	438 MATERIAL INPUTS DEFLATON ¹ COAL PRODUCTS	1970=1.0		GUILL7b	4
PUCP	431 MATERIAL INPUTS DEFLATON ¹ ELECTRIC ENERGY	1970=1.0		GUILL7b	4
PUEP	433 MATERIAL INPUTS DEFLATON ¹ FOREST PRODUCTS	1970=1.0		GUILL7b	4
PUFP	436 MATERIAL INPUTS DEFLATON ¹ MACHINE BUILDING	1970=1.0		GUILL7b	4
PUMA	434 MATERIAL INPUTS DEFLATON ¹ PETROLEUM PRODUCTS	1970=1.0		GUILL7b	4
PUMI	430 MATERIAL INPUTS DEFLATON ¹ METALLURGY	1970=1.0		GUILL7b	4
PUMI	441 MATERIAL INPUTS DEFLATON ¹ IND. NFC	1970=1.0		GUILL7b	4
PUMC	440 MATERIAL INPUTS DEFLATON ¹ OTHER BRANCHES	1970=1.0		GUILL7b	4
PUDB	437 MATERIAL INPUTS DEFLATON ¹ PAPER	1970=1.0		GUILL7b	4
PUPA	442 MATERIAL INPUTS DEFLATON ¹ PETROLEUM PRODUCTS	1970=1.0		GUILL7b	4
PUPF	432 MATERIAL INPUTS DEFLATON ¹ SOFT GOODS	1970=1.0		GUILL7b	4
PUPG	439 MATERIAL INPUTS DEFLATON ¹ TRANSPORT & COMMUNICATION	1970=1.0		GUILL7b	4
PUTC	444 MATERIAL INPUTS DEFLATON ¹ TRADE & DISTRIBUTION	1970=1.0		GUILL7b	4
PUTD	445 MATERIAL INPUTS DEFLATON ¹ TRADE & DISTRIBUTION	1970=1.0		GUILL7b	4
PXCON9	127 PRICE DEFATOR, CONSTRUCTION ACTIVITY	1970=1.0		GUILL7b	4
PS94	213 IMPORTS, PRICE DEFATOR, MANUFACTURED GOODS	1970=1.0		NARKHU	3
PY1GE0	422 EXPORT PRICE INDEX, GERMANY, SITC 7,1, MUNIC. MACHINERY	1970=1.0		00 MEFA	3
GFIN	396 DUMMY, #1 IN 1969 AND 1973	1970=1.0		NBPH	3
GFYP	23 FIVE-YEAR-PLAN CYCLE (1954=57,62=64,69=71,74=76, ETC.)	1970=1.0		NONE	3
QLIM	292 DUMMY TIME TREND FOR TECHNOLOGY CHANGE, 1975=1	1970=1.0		DG	3
QLT20	161 LONG TIME TREND 1928=0	1970=1.0		DG	3
QPLS	203 FIVE YEAR PLAN DUMMY (54=57,63=66,69=71,74=76)	1970=1.0		TRAN	3
QPH67	253 PRICE REFORM DUMMY FOR 1967=68	1970=1.0		DNG	3
QSH65	201 DUMMY VARIABLE FOR 1954=1964 (PRIVATE AGRICULTURAL EMPLOYMENT)	1970=1.0		C-H	3
QSH67	252 PRICE REFORM DUMMY BEFORE 1967=1, 1967=5, AFTER 1967=0	1970=1.0		NONE	3
QSH6A	222 SHIFT VARIABLE FOR 1968 ON #1	1970=1.0		D-G	3
QSH71	421 DUMMY, #1 THRU 1970 #0 AFTER 1970	1970=1.0		NONE	3
QSH72	397 DUMMY, #1 THRU 1971 #0 AFTER 1971	1970=1.0		NONE	3
QTS0	160 TIME VARIABLE WITH 1950=1 AND 1973=24	1970=1.0		NONE	3
QWREF	226 DUMMY VARIABLE FOR 1967=1969 (MAGE REFORM)	1970=1.0		C-H	3
QW90	195 DUMMY, SCALED BY VOLUME OF EMACHA, 60=65=1, 69=70=1, 80 OTHERWISE	1970=1.0		NONE	3
Q5859	249 DUMMY VARIABLE FOR 1958=59	1970=1.0		NONE	3
Q5860	247 DUMMY VARIABLE FOR 1958=60	1970=1.0		NONE	3
Q5861	242 DUMMY VARIABLE FOR 1958=61	1970=1.0		NONE	3
Q59	248 DUMMY VARIABLE FOR 1959	1970=1.0		NONE	3
Q5963	464 DUMMY VARIABLE FOR 1955=1963	1970=1.0		1	1
Q6061	465 DUMMY VARIABLE FOR 1960=1961	1970=1.0		NONE	3
Q6064	229 DUMMY VARIABLE FOR 1960=1964	1970=1.0		NONE	3
Q61	216 DUMMY VARIABLE FOR 1961	1970=1.0		NONE	3
Q6162	217 DUMMY VARIABLE FOR 1961=62	1970=1.0		NONE	3
Q6164	199 DUMMY VARIABLE FOR 1961=64	1970=1.0		NONE	3
Q6165	246 DUMMY VARIABLE FOR 1961=65	1970=1.0		NONE	3
Q62	207 DUMMY VARIABLE FOR 1962	1970=1.0		NONE	3
Q6263	200 DUMMY VARIABLE FOR 1962=62	1970=1.0		NONE	3
Q6264	355 DUMMY VARIABLE FOR 1962=64	1970=1.0		NONE	3
Q63	208 DUMMY VARIABLE FOR 1963=65	1970=1.0		NONE	3
Q6364	196 DUMMY VARIABLE FOR 1963=64	1970=1.0		NONE	3

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STATE'S LABEL	VAR# DESCRIPTION	UNITS	SOURCE	PRECISION
Q6368	243 DUMMY VARIABLE FOR 1963-64	NONE	NONE	1
Q6465	336 DUMMY VARIABLE FOR 1964-65	NONE	NONE	1
Q6466	332 DUMMY VARIABLE FOR 1964-66	NONE	NONE	1
Q6467	250 DUMMY VARIABLE FOR 1964-67	NONE	NONE	1
Q65	204 DUMMY VARIABLE FOR 1965	NONE	NONE	1
Q6566	358 DUMMY VARIABLE FOR 1965-66	NONE	NONE	1
Q6567	214 DUMMY VARIABLE FOR 1965-1967	NONE	NONE	1
Q66	215 DUMMY VARIABLE FOR 1966	NONE	NONE	1
Q668	219 DUMMY VARIABLE FOR 1966-1968	NONE	ONE	1
Q669	400 DUMMY VARIABLE FOR 1966-1969	NONE	NONE	1
Q6672	398 DUMMY VARIABLE FOR 1966-1972	NONE	NONE	1
Q67	225 DUMMY VARIABLE FOR 1967	NONE	NONE	1
Q6768	221 DUMMY VARIABLE FOR 1967-68	NONE	NONE	1
Q68	205 DUMMY VARIABLE FOR 1968, INDUSTRY WAGE	NONE	TRAN	1
Q6869	223 DUMMY VARIABLE FOR 1968-69	NONE	NONE	1
Q6970	197 DUMMY VARIABLE FOR 1968-70	NONE	NONE	1
Q69	206 DUMMY VARIABLE FOR 1969	NONE	NONE	1
Q6904	202 DUMMY VARIABLE FOR 1969 UN	NONE	NONE	1
Q70	209 DUMMY VARIABLE FOR 1970	NONE	ONE	1
Q7175	399 DUMMY VARIABLE FOR 1971-1975	NONE	NONE	1
Q73	400 DUMMY VARIABLE FOR 1973	NONE	NONE	1
Q74	395 DUMMY VARIABLE FOR 1974	NONE	NONE	1
RGXAF9	374 RATIO GVO/X AGRICULTURE/FORESTRY	GOG	GOG	1
RGXCC9	375 RATIO GVO/X CONSTRUCTION	GOG	GOG	1
RGXCH9	366 RATIO GVO/X CHEMICALS & PETROCHEMICALS	GOG	GOG	1
RGXCM9	369 RATIO GVO/X CONSTRUCTION MATERIALS	GOG	GOG	1
RGXCP9	362 RATIO GVO/X COAL PRODUCTS	GOG	GOG	1
RGXEP9	364 RATIO GVO/X ELECTRICITY	GOG	GOG	1
RGXF9	367 RATIO GVO/X FOREST PRODUCTS (INCL. PAPER)	GOG	GOG	1
RGXMA9	365 RATIO GVO/X MACHINE BUILDING	GOG	GOG	1
RGXME9	361 RATIO GVO/X METALLURGY	GOG	GOG	1
RGXNC9	372 RATIO GVO/X IND. NEC	GOG	GOG	1
RGXU9	377 RATIO GVO/X OTHER BRANCHES	GOG	GOG	1
RGXPA9	368 RATIO GVO/X PAPER AND PAPERBOARD	NONE	NONE	1
RGXPF9	371 RATIO GVO/X PROCESSED FOODS	GOG	GOG	1
RGXPP9	363 RATIO GVO/X PETROLEUM PRODUCTS	GOG	GOG	1
RGXSG9	370 RATIO GVO/X SOFT GOODS	GOG	GOG	1
RGXTC9	375 RATIO GVO/X TRANSPORT/COMMUNICATIONS	GOG	GOG	1
RGX1D9	376 RATIO GVO/X DOMESTIC TRADE	GOG	GOG	1
RTOP9	245 TAX RATE PROFITS	NONE	NONE	1
RTD9	218 DEVIATIONS FROM MEAN OF TURNOVER TAX RATE (SMOOTHED)	X	TRAN	1
RTU9	220 TAX RATE, ADJUSTMENT, OTHER SOCIAL SECTOR	NONE	NONE	1
RGVIA9	228 RATIO VALUE ADDED (CUR. PRICES), GNP	GOG	GOG	1
SA19	100 INDEX OF AGRICULTURAL INPUTS, SOWN AREA	1965*	NKH0Z	1
TOP*	139 REVENUES, DEDUCTIONS FROM PROFIT, STATE ENTERPRISES	H RUBL	JEC76	1
TOUES9	406 TRADE UNION AND PARTY DUES	B. CUR. RUBLES	JEC76	1
TINSP*9	407 INSURANCE PREMIUMS	A. CUR. RUBLES	PRAVDA	1
TUSS*	141 REVENUES, OTHER SOCIAL SECTORS	B RUBL	73JEC39	1
TP*	144 TOTAL STATE PRODUCTION (1973 FIGURES)	B RUBL	73JEC39	1
TPA*9	251 ADJUSTMENT FOR LOCAL TAXES, ADMISSION FEES, AND LOTTERIES	B RUBL	73JEC	1

DOCUMENTATION

SERIES LABEL	VAR# DESCRIPTION	DOCUMENTATION	UNITS	SOURCE	PRECISION
TOP*	143 REVENUES, POPULATION (INCOME TAXES, STATE BONDS, LOTTERIES ETC)		0 RUBL	NMM02	3
TR*	145 STATE BUDGET, TOTAL REVENUES (CURRENT RUBLES)		0 RUBL	NMM02	3
TSD*	142 REVENUES, SOCIAL INSURANCE REDUCTIONS		0 RUBL	NMM02	3
TT*	140 REVENUES, TURNOVER TAX		0 RUBL	NMM02	3
UAF	101 MATERIAL INPUTS, AGRICULTURE		0 RUBL	GULL76	3
UGC	100 MATERIAL INPUTS, CONSTRUCTION		0 RUBL	GULL76	3
UCH	103 MATERIAL INPUTS, CHEMICALS & PETROCHEMICALS		0 RUBL	GULL76	3
UCH	386 MATERIAL INPUTS, CONSTRUCTION MATERIALS		0 RUBL	GULL76	3
UCM	379 MATERIAL INPUTS, COAL PRODUCTS		0 RUBL	GULL76	3
UCP	381 MATERIAL INPUTS, ELECTROENERGY		0 RUBL	GULL76	3
UEP	382 MATERIAL INPUTS, FOREST PRODUCTS		0 RUBL	GULL76	3
UFP	382 MATERIAL INPUTS, MACHINE-BLDG. & METAL-MRKG.		0 RUBL	GULL76	3
UMR	378 MATERIAL INPUTS, METALLURGY		0 RUBL	GULL76	3
UME	389 MATERIAL INPUTS, IND. NEC.		0 RUBL	GULL76	3
UNC	394 MATERIAL INPUTS, OTHER BRANCHES		0 RUBL	GULL76	3
UUR	385 MATERIAL INPUTS, PAPER		0 RUBL	GULL76	3
UPA	388 MATERIAL INPUTS, PROCESSED FOODS		0 RUBL	GULL76	3
UPF	380 MATERIAL INPUTS, PETROLEUM PRODUCTS		0 RUBL	GULL76	3
UPG	387 MATERIAL INPUTS, SOFT GOODS		0 RUBL	GULL76	3
UTC	592 MATERIAL INPUTS, TRANSPORT & COMMUNICATION		0 RUBL	GULL76	3
UTO	393 MATERIAL INPUTS, TRADE & DISTRIBUTION		0 RUBL	GULL76	3
WAGA	460 AVERAGE WAGE-STATE AGRICULTURE		0 RUBL	NARKHOZ	3
WAGCH	452 AVERAGE WAGE-CHEMICALS		0 RUBL	VS1EMP, WAGE FUND	3
WAGCH	455 AVERAGE WAGE-CONSTR MATERIALS		0 RUBL	VS1EMP, WAGE FUND	3
WAGCH	459 AVERAGE WAGE-CONSTRUCTION		0 RUBL	VS1EMP, WAGE FUND	3
WAGCH	462 AVERAGE WAGE-COAL PRODUCTS		0 RUBL	VS1EMP, WAGE FUND	3
WAGP	450 AVERAGE WAGE-ELECTRIC POWER		0 RUBL	VS1EMP, WAGE FUND	3
WAGC	461 AVERAGE WAGE-ECONOMIC		0 RUBL	VS1EMP, WAGE FUND	3
WAGW	467 AVERAGE WAGE-FERROUS METALLURGY		0 RUBL	VS1EMP, WAGE FUND	3
WAGP	453 AVERAGE WAGE-FOREST PRODUCTS		0 RUBL	VS1EMP, WAGE FUND	3
WAGI	458 AVERAGE WAGE-INDUSTRY		0 RUBL	VS1EMP, WAGE FUND	3
WAGCH	451 AVERAGE WAGE-MBMW		0 RUBL	VS1EMP, WAGE FUND	3
WALPF	457 AVERAGE WAGE-PROCESSED FOOD		0 RUBL	VS1EMP, WAGE FUND	3
WAGG	449 AVERAGE WAGE-PETROLEUM & GAS		0 RUBL	VS1EMP, WAGE FUND	3
WAGP	454 AVERAGE WAGE-PAPER		0 RUBL	VS1EMP, WAGE FUND	3
WALSG	456 AVERAGE WAGE-SOFT GOODS		0 RUBL	VS1EMP, WAGE FUND	3
WAGC	461 AVERAGE WAGE-TRANS & COMM		0 RUBL	NARKHOZ	3
WACTD	462 AVERAGE WAGE-TRADE & DIST		0 RUBL	VS1EMP, WAGE FUND	3
WAKC	403 AVERAGE WAGE-COLLECTIVE FARMS		0 RUBL	VS1EMP, WAGE FUND	3
WAS*	106 AVERAGE WAGE-STATE FARMS		0 RUBL	VS1EMP, WAGE FUND	3
WC*	107 HAFFS, CONSTRUCTION		0 RUBL	VS1EMP, WAGE FUND	3
WDF*	405 AVERAGE WAGE-MILITARY MANPOWER		0 RUBL	VS1EMP, WAGE FUND	3
WGS*	110 ANNUAL WAGE RATE, GOVERNMENT & SERVICES		0 RUBL	NKH	3
WIS	105 WAGES, INDUSTRY		0 RUBL	VS1EMP, WAGE FUND	3
WIS*	109 WAGES, DOMESTIC TRADE AND DISTRIBUTION		0 RUBL	VS1EMP, WAGE FUND	3
WTC*	108 ANNUAL WAGE RATE, TRANSPORT & COMMUNICATIONS		0 RUBL	NKH	3
WTDQ	297 TOTAL IMPORTS OF THE DEV'WEST		0 RUBL	NKH	3
WTDQ	502 TOTAL IMPORTS OF THE LOC'S		0 RUBL	NKH	3
WTC	305 TOTAL IMPORTS OF THE WORLD		0 RUBL	NKH	3
WACH	412 NORMAL CROP OUTPUT		0 RUBL	VS1EMP, WAGE FUND	3

DOCUMENTATION

SERIES LABFL	VAR#	DESCRIPTION	DOCUMENTATION	UNITS	SOURCE	PRECISION
XACTUAL9	105	VALUE OF FEED FED TO LIVESTOCK				
XAGIN	89	NOMINAL AGRICULTURAL OUTPUT				
XAGT10	88	TOTAL NET FARM OUTPUT, 1970 PRICES				
XAM	86	NOMINAL OUTPUT, MEAT PRODUCTION				
XAN	84	NOMINAL OUTPUT, ANIMAL PRODUCTS TOTAL				
XANIM70	914	GROSS LIVESTOCK PRODUCTION, 1970 PRICES				
XCHOP70	911	VALUE OF TOTAL CROPS, 1970 PRICES				
XCHUA	90	CUNSTRUCTION ACTIVITY				
YDTH	92	INDEX OF TRADE ACTIVITY				
XGOLD9	198	GOLD PRODUCTION				
XGA	337	GRAIN PRODUCTION				
XGRCM9	293	GRAIN PRODUCTION IN THE EUROPEAN CMEA				
XGRDC9	303	GRAIN PRODUCTION IN THE LDC-9				
XGRPK	295	SECOND PEAK GRAIN OUTPUT				
XGRV4	416	NOMINAL GRAIN OUTPUT				
XGRT4	413	SOVIET GRAIN PRODUCTION, CROSS GRAIN AGGREGATE				
XGRT9	500	GRAIN PRODUCTION IN WESTERN EUROPE				
XGVN9	357	INDEX OF AGRICULTURE/FORESTRY GVO IN CURRENT PRICES				
XGVDAF	356	INDEX OF CONSTRUCTION GVO IN CURRENT PRICES				
XGVGC	349	INDEX OF CHEMICALS AND PETROCHEMICALS GVO IN CURRENT PRICES				
XGVUCH	352	INDEX OF CONSTRUCTION MATERIALS GVO IN CURRENT PRICES				
XGVUP	345	INDEX OF COAL PRODUCTS GVO IN CURRENT PRICES				
XGVDP	347	INDEX OF ELECTROENERGY GVO IN CURRENT PRICES				
XGVDP	350	INDEX OF FOREST PRODUCTS GVO IN CURRENT PRICES				
XGVDMH	348	INDEX OF MACHINE BUILDING GVO IN CURRENT PRICES				
XGVDMT	344	INDEX OF METALLURGY GVO IN CURRENT PRICES				
XGVNC	355	INDEX OF IND/NEC GVO IN CURRENT PRICES				
XGVNB9	360	INDEX OF OTHER BRANCHES GVO IN CURRENT PRICES				
XGVPA	351	INDEX OF PAPER GVO IN CURRENT PRICES				
XGVPP	354	INDEX OF PROCESSED FOODS GVO IN CURRENT PRICES				
XGVPP	346	INDEX OF PETROLEUM PRODUCTS GVO IN CURRENT PRICES				
XGVSG	353	INDEX OF SOFT GOODS GVO IN CURRENT PRICES				
XGVTC	358	INDEX OF TRANSPORT/COMMUNICATIONS GVO IN CURRENT PRICES				
XGVTD	359	INDEX OF DOMESTIC TRADE GVO IN CURRENT PRICES				
XICH	82	CHEMICALS				
XICM	85	CONSTRUCTION MATERIALS				
XICP	78	COAL PRODUCTS				
XIEP	77	ELECTRIC POWER				
XIFM	80	FERROUS METALS				
XIFP	84	FOREST PRODUCTS				
XIPG	85	MACHINERY				
XINB	81	NONFERROUS METALS				
XIPA	188	PAPER AND PAPERBOARD				
XIPF	87	PROCESSED FOODS				
XIPP	79	PETROLEUM PRODUCTS & GAS				
XISG	86	SOFT GOODS				
XIT	76	TOTAL INDUSTRIAL PRODUCTION				
XMEAT70	417	VALUE OF MEAT PRODUCED, 1970 PRICES				
XSER70	93	INDEX OF SERVICES, 1970 WEIGHTS				
XSUG9	315	SUGAR PRODUCTION (F OF CUBA)				

DOCUMENTATION

SERIES LABEL	VAR# DESCRIPTION	UNITS	SOURCE	PRECISION
X77H	91 TRANS-COMM INDEX, 1970 WEIGHTS, RUBLE SERIES FOR COMM	19705100	D-G	3
YCHTA9	192 NET MATERIAL PRODUCT IN CONSTANT PRICES, CMEA	196310	UNCIA/D	3
ZDT*	117 TOTAL AMORTIZATION FUNDS, NATIONAL ECONOMY	B,CUR,H	NKH	0
ZD70	116 REAL DISPOSABLE HOUSEHOLD INCOME	B,1970,RUBLES	TRAN	3
ZFPG49	119 PLANNED GROSS PROFITS, NATIONAL ECONOMY	B,CUR,RUBBL	RAYDA	0
ZGM*	111 GROSS EARNINGS, WAGE AND SALARY WORKERS	B,CUR,RUBLES	JEC76	3
ZIK60	115 AGRICULTURAL INCOME IN KIND	B,1960,RUBLES	TRAN	3
ZMPA*	181 MILITARY PAY AND ALLOWANCES	B,CUR,RUBLES	JEC76	3
ZPCP*9	182 PROFITS DISTRIBUTED TO COOPERATIVE MEMBERS	B,CUR,RUBLES	JEC76	3
ZPG*	118 ACTUAL GROSS PROFITS, NATIONAL ECONOMY	B,RUBL	NKH02	0
ZH2*	427 RESIDUAL INCOME - Sovnud 11	B,CUR,H	TRAN	0
ZSAG*	113 NET HOUSEHOLD INCOME FROM AGRICULTURAL SALES	B,CUR,RUBLES	JEC76	3
ZTD*	180 DISPOSABLE HOUSEHOLD MONEY INCOME	B,CUR,RUBLES	JEC76=TRAN	3
ZTG*	114 GROSS HOUSEHOLD MONEY INCOME	B,CUR,RUBLES	JEC76=TRAN	3
ZHK*	112 WAGE PAYMENTS TO COLLECTIVE FARM MEMBERS	B,CUR,RUBLES	JEC76	3